NATURE AND MORAL CONSIDERABILITY: A STUDY IN ENVIRONMENTAL ETHICS

THEOPHILA DOMNICA DE SOUZA and KOSHY THARAKAN

Is there a moral case for eradication of four centuries old dichotomy between man and nature on the basis of moral argument? To answer this question, we shall have to travel through a journey of five decades of theoretical and empirical arguments that attempt to bring about the collapse of the dichotomy. The single most significant source of dichotomy is the Cartesian metaphysical distinction between mind and body that resulted into differences between man and the other species of animals, plants and inanimate beings. The present paper reflects on the debate 'Man versus Nature' and looks at the underlying theoretical and practical presuppositions from the perspective of environmental ethics.

I

Roderick Frazier Nash has entitled Chapter I of his book *The Rights of Nature*, "From Natural Rights to the Rights of Nature" whereby suggesting a distinct theoretical shift that has taken place in the history of environmental philosophy. And this shift is reflected when he quotes Theodore Roszak, an eminent historian of culture, right at the beginning of the chapter: "We are finally coming to recognize that the natural environment is the exploited proletariat, the downtrodden nigger of everybody's industrial system ... Nature must also have its natural rights."[1] Although, the above quotation is full of metaphors situated in the context of American history, there are philosophical insights that

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should be noted. Roszak equates natural environment with the proletariat exploited by the new bourgeoisie (mankind as a whole). He also compares the exploited industrial workers who were denied the natural rights with nature that has always been outside the rights discourse.

Western concern with natural rights principles is a seventeenth/ eighteenth century phenomenon, and this was a result of the return to Greco-Roman jurisprudence, which clearly distinguished between natural law from man-made codes or charters. The Greco Roman and subsequent Christian civilisations assumed that nature along with animals (excluding humans) existed as instruments of the well being of humans. These utilitarian tendencies reflected in the fact that legal principles were not justified on the basis of fundamental principles of justice meant for both humans and animals, but on the basis of human interests.

Whether this separation between the *jus naturae* and *jus commune* was justified by a metaphysics or a metaphysical justification was provided at a later stage of western thought by philosophers like Rene Descartes will have to be studied. However, the obvious fact is that Rene Descartes' dichotomy between mind and body and the resultant practices that involved research with animals unanesthetized and nailed alive to wooden board, 'awakened' the conscience of mankind to review the Cartesian dictum that animals are insensible and irrational machines. The rest is history, with many modern philosophers providing cogent and irrefutable arguments to justify natural moral rights of animals.

Many environmental philosophers are not necessarily happy with the technical discussions whereby a case is made for moral rights of animals. Their concern for animals is not derived from, what they regard onerous argumentation through which rights of animals are justified. Instead they see moral treatment of animals as part of overall concern of environmentalists with nature. In other words, their concern for animals is within the realm of their concern for nature. Whereas, moral environmental philosophers' concern for nature, they argue, stems from the fact that animals have natural moral rights[2]. For example they consider Peter Singer and Tom Regan as advocates of biocentrism. The two most important thinkers who have brought to the centre the issue of concern for animals were Albert Schweitzer as early as 1923 and

Kenneth Goodpaster in 1978. While Albert Schweitzer demanded reverence for all life when he said "I am life which wills to live, and I exist in the midst of life which wills to live."[3], Goodpaster questioned the argument that accords moral consideration only to sentient beings. Goodpaster and others argued that sentience is a morally arbitrary feature, whereas the life criterion does not privilege such features.

But neither the sentientism nor biocentrism can account for our moral concern for the environment or the foundations of ecology. To make a case for ecocentrism we must provide moral arguments to justify the need to protect 'nature'[64]. Environmental philosophers or theorists by and large feel that the arguments provided by advocates of sentientism do not make a cogent case for protection of ecology. Similarly, advocates of biocentrism do give sufficient moral justification in defence of ecology. Merely making a case on the basis of general truism such as 'everything is related to everything else' provides only a general argument or a heuristic device and opens up a possibility of expanding moral consideration to nature. Critiques of such 'moral extensionism' will point out to weird questioning common among the lawyers arguing cases that are at times beyond defence. For instance, can a lamb sue the lion for threatening its life, on the ground that it has right to life? Or, do acacia trees have rights against the elephants who feed on such trees?

The form of ecocentrism propagated by the environmental moralists will not lead to such weird form of argumentation, but concentrate on moral primacy of non-sentient non-biological environment as 'ecological whole' of which humans, sentients, non-sentients, etc. are a part. "Appreciating the lessons of nature" argues Dale Jamieson, "should move us away from our traditional individualist paradigm of rights and interests, and lead us to see our moral relations with nature in an entirely new light".[5]

There are many environmental philosophers and moral philosophers who dealt questions regarding moral status of nature and/ or intrinsic value of nature, notable among them are Peter Singer, Lynn White, Holmes Rolston III, John Passmore, James Lovelock, Aldo Leopold, Arne Naess, J. Baird Callicott and Roger J. H. King. Considering the theoretical affiliations of these authors and similarities

of their contributions, we focus on four thinkers in view of the fact that they have distinct moral justification for why nature ought to be protected for the sake of itself.

One of the important features of these interpreters is that they have a distinct take on the question of 'valuing nature'. And this feature needs a brief introduction so that what is being discussed at a later stage gains clarity. It is a truism that value discourse arises from the interaction between the valuers and the contents of nature or the world at large. Values are ascribed to the world, when we speak about what ought to be valued under certain conditions or circumstances in relation to some others that do not ascribe such values. The complex of conditions and circumstances leads to equally complex ways of valuing that are labelled as 'intrinsically valuable' or 'instrumentally valuable' or that challenge our capacity of categorising as either intrinsic or instrumental.

Environmental philosophers and other thinkers seem to have been influenced by Immanuel Kant's distinction between 'intrinsic value' and 'instrumental value'. And this distinction has led many of them to consider that what is intrinsically valuable as superior to that what is instrumentally valued. It is true that what is intrinsically valuable is in some aspect more important than what is instrumentally valuable. But this does not imply that in all possible aspects, the instrumentally valuable is inferior to that which is intrinsically valuable.[6] It may be noted that the distinction itself cannot be accepted in absolute terms. Again, that the distinction itself is problematic may be seen from Dale Jamieson's example of painting.[7]

The problematic nature of distinction between 'intrinsic' and 'instrumental' value can be seen from the fact that a general glance at the 'intrinsic' value reveals at least four different senses/meanings. The first sense of 'intrinsic' value is one we refer to as the *ultimate* value contrasting it with the instrumental value which is that value which helps to realise the ultimate value. A long walk in the woods is the instrumental value that results in pleasure which is value *per se*, or ultimate value. The second sense of 'intrinsic' value is one which we refer to as *moral considerability*. It is in this sense that we consider

something/someone that has both necessary and sufficient characteristics for being considered as having moral standing or that should be morally considered. In the classical period the characteristic of rationality was deemed to be both necessary and sufficient reason for moral considerability. In recent times, those with 'sentience' (capacity to feel pleasure and pain) are regarded as members of moral community. And hence they should be considered while taking decisions affecting them. The third sense of 'intrinsic' value is one which is alternatively known as 'inherent value'. 'Inherent value' refers to a thing being valuable because of the objective property a thing has due to the nature of the object, and recognised as such. The fourth sense of 'intrinsic' value refers to that value that is independent of the valuer or observer. In other words, something has value whether there is a valuer or not[8].

Although these four senses have overlapping concerns, the differences among them have both conceptual validity as well as justification while dealing with various components of the world we live in. For instance, when we say we value something intrinsically in the first sense (ultimate), it may have far reaching consequences when used in the second sense (intrinsic as moral considerability). Someone may value mountains, rivers, forests, etc. in the first sense, and still may not claim to value them in the sense referred to in the other three cases. Then, there is a possibility that we may value something intrinsically and non-intrinsically at the same time as in the case of one valuing classical music, which can also be considered as instrumental value for someone who can relax after listening to some classical music. In spite of the problematic nature of the above distinctions, they provide a methodological tool for valuing nature, particularly to those not trained in philosophical discourse and analysis.

The biggest mistake that some biocentrists, ecocentrists, scientists and some philosophers make is to argue that if plants or ecosystems cannot be accorded moral considerability, (intrinsic in the second sense) they cannot be considered as having ultimate value (first sense of intrinsic value). Consider the following statement of John Rodman: "I need only to stand in the midst of a clear cut-forest, a strip-mined hillside, a defoliated jungle, or a dammed canyon to feel uneasy with

assumptions that could yield the conclusion that no human action can make any difference to the welfare of anything but sentient animals."[9] It is obvious, from the above, that human action that protects nature – other than humans, biosystems and ecosystems, – and such action are moral in spite of the fact that the objects of such action are not morally considerable. We can value forests, rivers, jungles etc. as much as we value justice while dealing with present and future generations of humans and other sentient animals. We have selected the following four representative theoretical explorations, namely: *The Gaia Hypothesis*, *Attitudinal Explorations*, *Cultural Construal of Nature* and *Land Ethic* that attempt to overcome the radicalisation of the differences between man and nature for a more detailed analysis in the present paper.

II

Gaia theory or hypothesis, whichever nomenclature the entire discourse as known to environmental philosophers, argues for a 'single organic system' that contains both living organisms and inorganic facets of Mother Earth.[10] The most humble summary interpretation of the Gaia hypothesis/theory is given by Peter Hay when he says that it is a "proposal that life on earth co-ordinates, regulates, and self-corrects in such a way that it is maintained even through substantial alterations to the geological and chemical conditions that sustain it."[11] There have been many different articulations and defence of *Gaia hypothesis*, however, for the present purpose, it is enough to look closely at James Lovelock's formulation as the representative of them all.

James Lovelock in his seminal work entitled *Gaia: A New Look at Life on Earth* viewed the entire world/earth as a 'single living entityá self regulating and "capable of manipulating the Earth's atmosphere to suit its overall needs, and is endowed with faculties and powers that go far beyond those of its constituent parts".[12] In other words, Gaia hypothesis, believes that life on earth 'regulates' and 'self-corrects' in order to maintain itself even when substantial changes take place to its (earth's) geological and chemical conditions responsible to sustain it. Lovelock could find only one plausible explanation for Earth's highly 'improbable atmosphere' that is fine-tuned to sustain life. Atmosphere

was seen by Lovelock as an extension of biosphere. In other words, the entire world as a self-regulating organism as the "entire range of living matter on Earth, from whales to viruses, from oaks to algae, [constitute] a single living entity".[15] Further, Lovelock attributed to this single living entity, faculties and powers, over and above the powers of the parts of this living entity, to manipulate atmosphere to suit its general and specific needs.

The hypothesis that proposes a large creature (Gaia, Mother Earth,) with the capacity to homeostat the planetary environment, is doubted by many including scientists. However, methodologically, Lovelock defends himself reasonably well. Most biologists believe that a creature is alive on the basis of 'phenomenological evidence'. And the evidence in this case is, in Lovelock's words: "the persistent ability to maintain a constant temperature and a compatible chemical composition in an environment which is changing or is perturbed if shown by a biological system would usually be accepted as evidence that it was alive".[14]

One of the basic criticisms against such a theory or hypothesis is that anthropomorphizing a regulatory mechanism of atmosphere as a living organism having its own 'mind' or 'will' so to say, is taking literally true the metaphorical expressions used in our discourse. The criticisms are indeed serious. But there is another aspect that we should not ignore. Use of metaphors is a significant method for advancement of knowledge, whether in natural or social sciences. A phenomenon that cannot be described by the existing terms and by the meaning/s ascribed to them, metaphors do play a significant role in generating new knowledge by providing a definitive description of such a phenomenon. Advances in physics, computer sciences and even in biology have shown considerable use of metaphors in order to extend meanings of existing terms and create new knowledge.[15]

There have been many criticisms against Gaia hypothesis, particularly the ones that accuse Lovelock of 'collaborating' with thinkers committed to philosophical holism[16] rather than being committed to a scientific hypothesis. Lovelock's initial collaborator, Lynn Margulis[17] was one of the first to criticize Lovelock's attempt to see the Earth as

a 'living organism'. The most significant criticism against Lovelock's 'Gaia hypothesis' is that it is 'teleological' in nature. As a reaction to this criticism, Edward Goldsmith went to such an extent that he argued that 'Gaian processes are teleological'. Edward Goldsmith proposed sixty-seven principles of 'Gaian worldview', the twenty-second of which clearly asserts that reductionist scientists are incapable of accepting such a proposition because for them (scientists) it is only man that is capable of intelligence, consciousness and reasoning.

It would be great injustice to evaluate the 'Gaian worldview' if we restrict ourselves to Lovelock's contribution alone. Again, for the present study, the technical literature that has developed for the last fifty years or so may not be of great help to the present ethico-philosophical study for two reasons: one, we are not competent (given the scientific nature of discourse) to scrutinize the arguments for or against, and two, there is an unsettled question of methodological superiority of the mechanistic model vis-a-vis the biological model of understanding sciences. In such a situation, we have restricted our evaluation to a general understanding of 'Gaian' hypothesis. James W. Kirchner, a sympathetic critique of 'Gaian hypothesis' has been a major contributor to the debate and has written extensively on the subject. We shall, for the present study, depend on his works, particularly, his article "The Gaia Hypothesis: Fact, Theory, and Wishful Thinking"[18] wherein he has evaluated the entire debate in the light of some of the recent developments in biosciences and justly concludes there are, in 'Gaia hypothesis' elements of fact and theory, metaphors, and of course, some wishful thinking.

Kirchner begins his study of 'Gaia hypothesis' by looking at the extent of application, namely two forms of hypothesis: *weak* forms and *strong* forms. Weak forms of Gaia hypothesis argue that life as a whole has influence on the environment. This therefore leads us to believe that the two evolutions, namely, evolution of life and evolution of environment, are so entangled, that they affect each other. The strong forms of Gaia hypothesis assume "that the biosphere can be modeled as a single giant organism ... or that life optimizes the physical and chemical environment to best meet the biosphere's needs".[19] The claims

made by strong forms, according to Kirchner, cannot be falsified and hence unscientific. They should be treated as metaphors. However, there is one area between the strong forms and weak forms of 'Gaian hypothesis' that need a relook as they are capable of justifying the study of 'Gaian hypothesis', i.e. 'Homeostatic Gaia' which believes that "atmosphere-biosphere interactions are dominated by negative feedback, and that this feedback helps to stabilize the global environment."[20]

What Kirchner refers to elements of 'fact' and 'theory' in 'Gaian hypothesis' is overwhelming research and evidence for the last fifty years or so regarding organisms' effect on physical and chemical environment. Kirchner cites large number of studies to prove his point, i.e. 'many important chemical constituents of the atmosphere and oceans are neither biogenic or biologically controlled, and many important fluxes of the Earth's surface are biologically mediated ..."[21] Again, the 'Gaian hypothesis' according to many biologists seem to be justified by the fact that organisms and environment (physical) 'form a coupled system', in Kirchner's words: "the biota affect their physical and chemical environment, which in turn shapes their further evolution ... .(and) Earth's environment and life co-evolve through geologic time."[22] The theoretical element of the 'Gaian hypothesis' is observed from the following. As any complex 'coupled system' shows 'emergent characteristics' so also atmosphere/biosphere as a coupled system will develop emergent behaviour. This theoretical element is comparable to the phenomenon, where a social whole is not a sum total of its corresponding parts, or society is not equal to a sum total of individuals of the society. Natural sciences seem to recognize, in their methodological framework, a form of emergentism which was hitherto not accepted in natural science methodology.

Why does Kirchner think that 'Gaian hypothesis' is a 'wishful thinking'? This is because there are claims in this hypothesis that there is something in this process more than 'co-evolution' of biosphere and environment. Further, there is a belief that in such processes there is not only system-level behaviours but also some form of evolutionary teleology. From the fact that a coupled system of biosphere and environment may give rise to two types of feedback, namely, negative

feedback that leads to stabilizing and positive feedback that leads to destabilizing – resulting in either beneficial or non-beneficial (detrimental) conditions for the survival of organisms. But what Gaian hypothesis or its propagators accept is only negative feedbacks that are beneficial to the organisms. The positive feedbacks that are detrimental are not recognized as 'Gaian'. There is, therefore, an explicit claim that these feedbacks (biologically mediated) create stability in the environment which results in changes more appropriate or suitable for life or evolution of the organisms. Kirchner points out that although such a claim of 'Gaian hypothesis' that "organisms stabilize the global environment and make it more suitable for life" is not "consistent with the available data" and "difficult to test against data".[23]

Two issues arising from the above discussion need further elaboration to understand the 'Gaian hypothesis' and its contribution to protection of nature. Kirchner labels as 'Homeostatic Gaia' the negative feedbacks (biologically mediated) that stabilize the environment. Secondly, he qualifies the consequential changes in the environment that are appropriate for life as 'Optimizing Gaia'. That both negative and positive feedbacks (biological) play a stabilizing or destabilizing role in the environment (physical) has been proved by biogeochemists and other scientists. Kirchner has listed eight cases of such negative and positive feedbacks in this study to highlight the biosphere-atmosphere connection leading to phenomena such as 'global warming', 'green house emissions' etc.[24] What is clear from these studies is the fact that there are both positive and negative feedbacks and hence it is not true that biologically mediated feedbacks do not necessarily lead to stabilizing the physical environment.

The second issue that requires reflection is the Gaia hypothesis' claim that biota alters the environment (physical) to benefit itself. Empirical evidence has not corroborated this claim, alternatively it has been proved that there are both positive and negative feedbacks – in fact Kitchner has cited more positive feedbacks than negative ones – which shows that biologically mediated homeostasis to a great extent has detrimental/destabilizing effect. But there is another aspect of our natural experiences. Our belief that the natural environment is most suitable for

survival of living organisms, even under most devastating or strenuous conditions is something we are so convinced about that there is not even an iota of doubt. And since the natural environment has biological feedbacks, it becomes equally natural to believe that these mechanisms make our environment an ideal place for survival and growth of all living organisms. It is but natural to believe that absence of biological processes would disrupt the natural environment as much as their presence enhances the world we live in.

But, Kirchner, as critique of 'Gaian hypothesis', argues that it is one thing to accept that 'environmental services' are important for the ecosystems to survive and thrive, but another thing to conclude that the environment is so designed that it meets the needs of the organisms. Biogeochemists and other scientists have accepted the fact that organisms affect the environment, and that there are organisms which are best suited to thrive under such environmental conditions because of their natural propensity or evolutionary traits. It is also true that some of the conditions or environmental services have been created/enhanced by the same organisms or their co-occurring species.

Kirchner describes a hypothetical case which almost satisfies the requirement of 'Gaian hypothesis'. Rainforests remain wet in drought conditions (when there is intense heat) because water is recycled by the process of 'transpiration' from thick vegetation. This would not be possible in places where there is sparse vegetation. However, there are different type of problems for the rainforest vegetation, namely lack of nutrition and light as the thick vegetation creates overcrowding or 'parasitism' by pathogens that grow under such wet conditions. Organisms in such situation will have to be so evolved that they can survive under these new changed wet conditions, which would not be possible if 'transpiration' was not to take place or was disrupted. Can one treat this case as 'rainforest influencing its climate for its own benefit'?[25]

Kirchner takes a realistic position on this issue when he points out that an 'yes' answer would be 'semantically true' but 'mechanistically misleading' as it would be appropriate to conclude "that natural selection has made rainforest organisms dependent on rainforest conditions, which

are partly of their own making".[26] Kirchner claims that there is not only semantic confusion '*for* its own benefit' and '*to* its own benefit' but the expression '*for* its own benefit' suggests vegetation somehow makes changes in the physical environment (with an 'express wish') '*to* reap benefits' from such changes. It is not surprising that evolutionary scientists have, knowingly or unknowingly, fallen in the trap of 'teleology' in their discussions, although, as scientists, they have been committed to a mechanistic framework in understanding nature. Alternatively, one may inquire into the fact whether the seemingly 'teleological' expressions of Gaia proponents are justified as metaphorical uses of expressing phenomena that hitherto could not be expressed in ordinary mechanistic (expressions) model of explanation.

III

John Passmore's *Attitudinal Explorations* is based upon two axioms (1) "that natural processes go on in their own way, in a manner indifferent to human interests," and (2) "if we can bring ourselves to fully admit the independence of nature...we are likely to feel more respect for the ways in which they go on."[27] Passmore proposes a 'new metaphysics' that does not see nature as human dependent and 'created' for the survival of mankind. Passmore believes that it is proper to assume that animals have their own 'interests' unless the meaning of interests is 'needs'. The new metaphysics proposed by Passmore is not reductionist but naturalistic. The clarion call given by some for a new environmental ethics, Passmore believes, is unjustified as the existing ethical principles are adequate enough to 'protect' nature. What is proposed is a 'new attitude to nature' that overcomes the age old 'prejudices' that nature has only instrumental value and that exploitation of nature is morally wrong only when it affects human interests.

A critical reflection on Passmore's contribution to 'nature protection' as envisaged in this paper would take us to his seminal work *Man's Responsibility to Nature*, a summary of the same has been published as article in various anthologies on environmental ethics. Passmore has used the term 'nature' in a very restricted sense to refer to "only that which, setting aside the supernatural, is human neither in

itself nor in its origins".[28] But when he refers to 'attitude towards nature' he refers to a much more restricted sense of the term nature whereby referring to that part of nature that man can change or has the power to modify. The assumption here is that man has the power over 'nature' to change or modify it.

Passmore says that his concern is to look at the relationship between man and nature comprising of 'strange' life of animals and plants, – 'strange' in the sense used by existentialist theologian, Karl Barth, unfamiliar, foreign, alien. This characteristic of nature has not always been part of man's awareness. Man has, in the course of history, viewed nature differently as having mind of its own, capable of being entreated to as humans would, and even being prayed to as we do to gods and deities. But with the beginnings of Greek and Roman civilizations and the subsequent Western Renaissance, the official scientific position became dominant and natural processes were viewed differently from that of animals. Passmore highlights the fact that there were still residual elements in many societies that viewed nature as having its own mind, or took literally the metaphors used such as 'nature will have its revenge'.

Christian metaphysics of nature which is the result of a long Stoic-Christian tradition has accorded man a higher status, and nature (animals and plants) a status of being instruments of well-being of humans. Passmore believes that is because for long time the Christian tradition emphasized the doctrine that what God has created is the best possible creation, and that "sinful corrupt men ought not to attempt to reshape the world in their own image."[29] Further, Christians, by and large, believed that the advancement in science and technology is the result of the development of Christian civilization and that modifying and exploiting nature to suit human needs is justified.

Passmore believes that Christian ethical approach to nature is reflected from the fact that the relationship between man and nature (natural objects) is not mediated by any moral considerations. In other words, so long as such an action of the individual does not affect another person, like destruction of another person's property or animals, the action is not immoral. Again so long as such actions which seemingly

destroy property or inflict cruelty on animals do not lead to encouragement of such attitudes in others, there is no moral sanction on the same. In short, it is wrong to be cruel to animals, if it leads to harm to fellow human beings. Two important philosophers of Christian tradition, Augustine and Aquinas, may theologically vary from each other, but ethically seem to agree when they claim that there is no moral wrong in perpetuating cruelty on animals. Even Immanuel Kant maintains a similar position and goes to argue that what is said about animals, *mutatis mutandi*, applied to all non-human entities such as trees and plants.

The issue of cruelty to animals is central to the discourse on ecology. Passmore does admit that Kant and many other philosophers have looked at the problem only in terms of moral discourse of human beings and as related to the interactions between humans. And the relationship between humans and the non-human world is kept outside the moral discourse. The non-human world would enter into the moral discourse in so far as the actions of the human against the non-human world impinge on the interest of humans. The issue whether there is any intrinsic value in animals and plants (non-human world) is central to the contemporary discussion in ecology. But such a matter was set aside during the seventeenth and eighteenth centuries under the influence of the Cartesian doctrine of radical differentiation between man and animals. Animals were not only denied the capacity to suffer pain and pleasure, but were treated as machines. Under the Cartesian influence even the human body was treated as part of the non-human world, but retrieved from this category only because Descartes had deemed that there is a connection between consciousness (mind) and body because of which the body was seen as 'united' with the consciousness. Consequently, the Cartesian dichotomy between mind and body was used by the Western Christian world to keep the relationship between man and nature out of bounds of moral obligations.

Unhappy with the Cartesian view of man and world which did not allow even an aesthetic appreciation of natural beauty let alone a moral evaluation of man-nature relationships, the ecological critics of the Western Christian civilization's attitude to nature, seek to articulate

a new ethics based upon a new metaphysics and a new aesthetics. Passmore emphasizes the fact that Western metaphysics along with ethics have encouraged exploitation of non-human nature. This does not imply that the community of thinkers have to opt for a new metaphysics and ethics or declare nature as sacred in order to protect it from the exploitation by science and technology. Science has indeed enhanced our understanding of nature, got communities out of superstitious beliefs and put us on the path of rational application of scientific laws and theories in order to improve the condition of our life. Passmore seeks to lay down a proper framework for a 'philosophy of nature' free from the 'reactionary and mystical overtones' that have often surfaced in the discourse of ecological movements.

Passmore lays down three prerequisites for an adequately formulated 'philosophy of nature': We must accept the fact (1) that nature functions in its own way, without any connection or 'concern' with human interests; (2) that human action impacts nature in an unpredictable manner; and (3) that 'natural' laws in the case of nature are radically different from the laws of physics, but they advance the understanding of the phenomenon of nature. There is need of greater clarity regarding what these three prerequisites are.

Passmore believes that natural phenomena or processes are such that human interests are not part of their consequences or impact. They are such that there is nowhere even an iota of 'concern' for the survival of mankind. Secondly, man's action impacts nature in a very strong manner, even to the extent that they change the quality of substance setting about new processes. One is incapable of predicting the outcome of such processes or interactions. And finally, the general 'laws' formulated in understanding 'nature' are quite ill-formulated compared to the ideal laws of physics. In spite of the fact that the laws of 'nature' like that of biology and sociology are inferior to that of physical sciences, they provide detailed understanding of their functions and *inter se* relationships.

The conditions or prerequisites laid down above suggest that we require a new metaphysics that is non-anthropocentric as nature does not (is indifferent to) care for the existence or survival of man. But,

Passmore immediately adds that this is not a new metaphysics, as naturalistic philosophies have always supported such nature driven philosophies. Indeed, the objective of such philosophies was to 'naturalize' man rather than to 'spiritualize' nature. The difference between Passmore's 'nature' and that of naturalistic philosophies like Darwinian biology, is that in the case of the former, 'nature' is posited *apart* from man, whereas in the case of the latter, man is *part* of nature. Passmore's insistence of 'nature philosophy' on the basis of the meaning he attaches to nature is important in relation to the uniqueness of men, who according to him, have special ways of relating to one another and to the world around them, and also distinctive in their concern for the future.[30]

Naturalistic Philosophies such as Darwinian biology would accept that in the normal biological struggle of the survival of the fittest, man as dominant species is prone to destroy other species. Man's survival under these conditions is at the cost of other species. However, Passmore specifically points out that the difference between men and other species is that men can visualize the results of their action and observe the resultant extinction of species. Man can change his behavior in order to preserve the species or refrain from destroying it. At one level men may not be unique for the naturalistic philosophy, but at another level that men have the capacity to visualize and change their behavior in the evolutionary processes, compels us to look for a 'new metaphysics' which is naturalistic but not reductionist.

Secondly, man has to recognize that he along with animals, plants, and biosphere constitute a 'community' and that all these constituent parts have a right to live/survive and a right to be treated with 'respect'. This is particularly directed against the Stoics who gave men a unique place in the civilizational scheme that gave licence to men to destroy other members of the community for their own survival.

Where does Passmore differ from other philosophers while dealing with 'right' and 'respect' to all members of the 'community? What type of 'new ethics' can Passmore propose that will vary from the traditional one? Taking a cue from the primitivists who resent men acting unjustly and against nature, Passmore rejects Stoics' free for all exploitation of

nature. He takes a cue from Hume who distinguishes between 'acting *humanely* towards animals' and 'acting *justly* towards animals', to reject the primitivist position. Acting *humanely* towards animals implies theory of sentience, namely, animals, like humans suffer pain. Acting *justly* towards animals, according to Passmore, implies animals have interests (like humans) and hence come under the purview of the theory of justice. Passmore does not accept that non-humans have 'interests' in any sense other than 'needs', and therefore cannot have 'rights'. "It is one thing to say that it is wrong to treat plants and animals in a certain manner, quite another thing to say that they have a *right* to be treated differently",[31] argues Passmore. He concludes saying that humans, animals, plants and biosphere form a single community. But this community does not create rights, duties and obligations on the part of its constituent members and there is no network of responsibilities that accords *rights* to the members.

Passmore proceeds to deny the need of 'new ethics' as there are already enough principles in the traditional ethics that allows condemnation or punitive action on those who destroy ecology. Passmore says that it is only in the cases where specific human interests are not identified or involved, that one may call for a 'new ethics' to deal with such eventualities. Passmore seems to fall prey to ethical reductionism when he cites the example of protection and preservation of wild species and wilderness on the basis of some form of utilitarianism.

Passmore cannot accept the theologically enunciated Augustinian doctrine that human actions against animals are not within the scope of moral criticisms, except when it comes to conflict with human interests. This is universally recognized 'moral blindness'. However, Passmore questions whether the same moral blindness continues while dealing with non-sentient entities, just because they do not suffer.

Passmore points out that destruction of natural objects is far more serious than the vandalism of property such as works of arts and artifacts that implicitly affects human interests. Citing the often quoted thought experiment of 'last man on earth', Passmore argues that the last man is condemnable for the 'orgy destruction' even when it affects no human interest.[32]

Passmore's conclusion of his argument is refreshingly 'prescriptive' when he says that when we recognize the independence of nature and the complexity of natural phenomena we shall develop a sense of admiration of nature, appreciate it aesthetically and study its very complex workings, instead of just manipulating it for our personal benefits. This is what Passmore calls, 'new moral attitude' to nature, which is inextricably linked to a more realistic philosophy of nature.

IV

Roger J. H. King's studies have a rather controversial response to nature in general and animals in particular in the 'context' of *hunting*. His reflections take him to find fault with animal liberation protagonists, land ethic interpreters, defenders of primitivism and even ecofeminists. His differences with animal liberation protagonists are based upon the fact that animal liberationists do not distinguish between domestic and wild animals, which could be treated differently. He finds fault with Aldo Leopold and other land ethic interpreters on the ground that if they were to take into account 'self-domestication by humans', the attitude towards humans would be radically different. He is against the primitivists' (such as Paul Shepard and Ortega y Gasset) claim that 'hunting is essential part of human nature'.

A more detailed study of King's position reveals that he attempts to answer the question 'does Nature have moral value?' in a manner that the answer remains incomplete. He begins his analysis by highlighting the fact that there are two ways of approaching the question: (1) study the properties that nature has, that make nature a moral value; (2) study the context under which Nature is 'construed' which makes it to possess or not to possess moral value in our discourse. The first approach is a traditional approach adopted by philosophers in the history of philosophy. The second approach depends upon the context under which non-human entities are accorded moral status within our 'human cultural understanding'. This 'contextualist' environmental ethics[33] depends upon our social, political, economic, etc. factors that help us to construct our conception of Nature.

King believes that contemporary environmental ethics is substantially foundationalist, in the sense that nature of the object/s determine whether they have moral value or not. Foundationalist approach to moral value is directly opposed to value based on cultural interpretations. King opts for a *contextualist* approach in which Nature is a construal of human cultural life. In other words, our conception of Nature is based upon our interpretation of Nature which is dependent upon our intellectual, emotional, artistic and scientific experiences. King calls the complex of resources as the matrix or context within which our interpretation of the world occurs. In the words of King: "...the inquiry into Nature's moral status proceeds against the background of a prior interpretation and understanding of just what Nature is....and this understanding itself presupposes the historically specific matrix from within which we begin our interpretative effort."[34] It is but natural to conclude that we cannot have abstract discussion on the moral value of Nature, as the question regarding the moral value of nature presupposes the epistemic exercise of how we know nature and what is the end result of such knowledge.

King exemplifies his position by citing the example of 'wilderness' and how it was valued by various communities/societies. Referring to the study of Peter N. Carroll[35] , King shows how Puritans in New England viewed wilderness as the domain of Satan that was sought to be destroyed and converted into arable land. The religious context of Puritans determined the view of one constituent of Nature in this case. With the advent of Romanticism wilderness gained a special status due to the artistic enterprise of painting 'beautiful' images of wilderness and that led to the development of aesthetic value. King cites Mark Sagoff[36] who gave a moral argument on the basis of aesthetic value for the preservation of the wilderness. Contemporary society views wilderness purely from the economic point of view. Wilderness is seen as a source of economic resources such as raw material for industries in terms of timber, hunting for wild animals, space for recreational tourism and other activities that bring in economic benefits to the community. In return, it is obvious, that there is great amount of degradation of wilderness. That the three above cited examples are used

by King to argue that any "inquiry into the moral status of Nature must inevitably return to a moral and political investigation of the social context within which Nature is constructed".[37]

The most significant criticism King forwards against the foundationalist environmental ethical position is that 'Nature is incapable of playing an independent justificatory role.' Let us see King's argument closely. King believes that the traditional environmental moral philosophers presuppose that Nature is a victim of human vandalism. At the same time Nature shows humans a way for proper behaviour by which humans can restore Nature's stability. Now, all such foundationalist positions agree to two things: for one, the treatment humans mete out to Nature depends upon the objective characteristics of Nature, and recognised as such by the moral community; secondly, the objective of environmental ethics is to restore our 'harmony with nature' by overcoming the alienations suffered by humans due to its destructive behaviour. The two points mentioned above make sense, according to King, only if our understanding of Nature is the result of unmediated access to Nature as it is. Or else, all that Nature tells us to follow and the moral do's and don'ts that humans lay down are dictated by the type of environmental ethics we construct.

King analyses different moral theories that have implicit to them the idea that Nature is a 'moral guide' to humans in their relationship to the non-human world. Immanuel Kant, according to King, in *Lectures on Ethics*, does not recognize animals as participants in the moral community as they lack the capacity of reason and free will and hence Nature is not capable of providing moral guidance for the behaviour of humans. Animal liberation philosophers (like Peter Singer) are also foundationalists as they depend upon specific property of *sentience* to argue for inclusion of animals in the moral community. In the case of Aldo Leopold, King observes that 'land ethics' is so restrictive that the moral claim of Nature is limited to that extent that it contributes to the stability of the ecosystem, otherwise, it would be outside the scope of moral protection. King even points out that some of the 'land ethic' proponents justify hunting of animals on the moral grounds that it contributes towards integrity, stability and beauty of ecological wholes[38].

King's most significant contribution to the formulation of a proper environmental ethics is to provide a framework by means of which he will be able to provide direction for an adequate moral theory. King begins by asserting certain 'truisms', first of which is that to treat Nature as a 'guide' for our moral behaviour, we must understand what Nature is. And this task is the most problematic and one that has created divisions among the environmental philosophers. King further believes that our present conception of Nature is the result of cultural components that both institutions and variety of interpretations, whether religious, scientific, economic or political, make available to us. King further points out that before we translate Nature into a moral guide, we must look at how we have constructed the conception of nature that we have that has led us to destroy Nature. The radical shift that King proposed is in the following questions: ".... ask *not*, how Nature is *really* constructed? .... ask what understanding of Nature would support and sustain life which is morally responsible both towards the environment and towards other human beings?"[39] King points out that many of the philosophies of Nature that have been around are recognised by their proponents as "interpretative frameworks' and consequently the cultural foundations or origins of these philosophies are ignored. For example, King traces the origins of the Deep Ecology movement in their critique of radical anthropocentrism. King traces the origins of Eco-feminism in patriarchal institutions and the cultural experience of women that see the exploitative and dominating impulse inherent in men. Without these and other interpretative frameworks, the understanding of Nature provided by environmental philosophies will be devoid of meaning.

What is the alternative? King observes two distinct ways of construing the notion of Nature based upon the cultural categories. The first way is to view Nature as a commodity of economic production. In a society that is overly obsessed by economic growth, it looks for more and more resources for the fulfilment of the economic project. The second way is to view Nature on par with humans who are objectified as participants in the project of capitalism. King attempts to provide an interpretation of Nature (a construal of Nature) that will enable and sustain the capitalist economic activity. An interpretation of Nature that

views the nonhuman world as spiritual or that has claims and interests, will be contrary to the economic viewing of nature as natural resources or raw material for economic activity. King observes an alternative view or construction of Nature that natural sciences provide. The view of Nature provided by natural sciences justifies the use of nature as a commodity for economic production, thereby legitimising socio-political and other interests of the community. This view is clearly in conflict with the alternative construction of Nature that wants to highlight moral and aesthetic values.

It is a common feature of economic activity and mass production that it is at its efficient best when Nature is 'invisible' to humans and is seen as only a natural resource in the economic processes. This 'invisible' property is noticeable in cases where the communities do not live in harmony with nature or depend for their survival directly on nature. Nature is 'invisible' for the urban communities who are engaged in exploitation of Nature as natural resources of their economic activities and mass production. It is only through artistic activity of landscaping, or photography, television documentaries, etc. that Nature becomes 'visible' to urban communities, opines King. King identifies two features that result from the urban view of Nature: one, Nature is seen endowed with aesthetic value; secondly, humans in this artistic or leisure industry become passive consumers with passing and purely external relationship with Nature. This construction of Nature also enables a new form of exploitation of nature for the benefit of the leisure industry and allows preservation of few selected areas that too because it gives economic returns. King, based on his experiences, points out that not all communities may indulge in such efforts to make Nature invisible so that it can be economically exploited. There are communities and individuals who resist this temptation at the cost of being blamed for their lack of understanding of modern economic development and public facilities that go with urbanization.

The construal of Nature in scientific and economic terms whether correct or wrong is the result of our way of knowing and thinking and has become a part of contemporary societies. King, *a la* Michael Foucault, inquires into "who is empowered and who is subjugated by

construing Nature in economic and scientific terms?"[40] And the answer is: The construal of Nature in economic and scientific terms fails to see alternative models of understanding non-human nature. The traditional dominance of science and contemporary power of economic authorities, suppress alternative ways to perceive Nature and the proponents of such theories. However, it is going to be difficult for the environmental philosophers and activists to argue that Nature has moral intrinsic value in a culture that is dominated by and dictated by economic values. King doubts whether an alternative construction of Nature exists at present. He sees a direction for such an alternative in the writings of what he calls 'literary naturalists' such as Thoreau, Abbey, Muir, and others. The writings of these authors do not provide abstract arguments for constructing a notion of Nature that has intrinsic moral value, but offer the possibility of a 'moral and philosophical association' beyond the self-interestedness of economic and moral ideologies. In his words, these writings "re-introduce(s) subjectivity and moral connectedness into landscape."[41]

According to King, the language of these 'literary naturalists' by the use of figures of speech such as metonymies, etc. creates close connection and affinity between land, and experiences and values. This in turn leads to incorporation of the physical 'aspects' of the nature into the moral and social milieu, and which consequently leads to Nature being visible in every day affairs of human beings. Normative questions regarding nature cannot be asked and meaningfully answered from the standpoint of 'philosophical absolutes' and 'indubitable certainties', but by construing Nature from the cultural conditions that create desires and needs of the social communities, opines King.

V

Aldo Leopold's "Land Ethic" provides one of the most holistic approaches towards understanding the environment. Arguing against gross anthropocentrism, he challenges the traditional understanding of moral philosophy. He makes his argument on the basis of a synoptic review of history and representation of origin and growth of moral development understood in evolutionary terms. Leopold depends upon

his insights into the development and growth of moral consciousness in the last three thousand years (from theological origins to justification based upon human reason) and shows how new outlook on civil rights, human rights, abolition of slavery, rights of women, etc. have become part of the moral consciousness of our society. Even anthropological evidence suggests that there are similarities between moral concerns and boundaries of communities with that of societal concerns. However, there seems to be a wide gap between the practice of morality and the history of growth of moral consciousness. It is obvious because morality is not a descriptive phenomenon, but normative – whatever may be its origins and growth.

Treated as the Bible of the ecological conservation movement, Leopold's *A Sand County Almanac* was treated dismissively by the philosophical community, particularly those who dealt with moral arguments for the preservation of flora and fauna. Among these there were respectable environmental moral philosophers such John Passmore, H. J. McCloskey and Robin Attfield. J. Baird Callicott, one of the first sympathizers of Leopold's Land Ethic identified three reasons why academic philosophers did not take seriously Leopold's arguments. For one the language is condensed prose style by which complex arguments are attempted to be expressed in few sentences or phrases. Secondly, Leopold deviated from the traditional ethical discourse and the familiar assumptions of contemporary ethical theories. Thirdly, Leopold's conclusions had possibility of disturbing implications which hurt the sensibilities of some societies that had historically suffered from genocide, etc.

What is the justification to regard Land Ethic as a moral theory? Leopold begins his exposition of Land Ethic by conducting a review of moral development in the ancient world where slaves were excluded from the purview of morals. And it took the Western world almost seven millennia before slaves (mostly Africans) were included in the category of humans. In spite of this, the review of moral development makes Leopold believe that there is a steady moral growth. This is because more and more human activities and relationships between humans have come under the guidance of moral principles. And this is

so in spite of the fact that there are many moral aberrations that continued for long period of time and are even present today. One may recall, history of morality as it is in practice, is not same thing as history of moral consciousness. J. Baird Callicott supports Leopold's observation by citing examples (a) expansion of human rights based upon moral principles in Africa, South America and Asia, (b) adoption of legislations for overcoming injustices against women, children, migrants, etc., and (c) expansion of movements for women's liberation, animal liberation, protection of environment; as an expression of growing ethical consciousness (different from practice).[42]

Leopold's notion of ethics from the evolutionary point of view is significant for his construction of Land Ethic. Leopold believes that the conception of ethics dominating the moral theory framed by philosophers is not satisfactory as the conception does not take into account its evolutionary character. From the evolutionary point of view, Land Ethic for Leopold is "a limitation of freedom of action in the struggle for existence".[43] Here we depend upon Callicott's interpretation of Leopold's understanding of ethics. The expression 'struggle for existence' is obviously a reference to the Darwinian evolutionary framework within which the evolution of ethics is located. It is however paradoxical that in the "struggle for existence" there would be "limitations of freedom of action". An answer to this lies in Leopold's analysis of origin and growth of ethics that can be understood from the sociobiological point of view.[44] Leopold locates the beginnings of moral history to origins of religions. And the most specific one is the Ten Commandments given by Moses recorded in the Old Testament. This moral code is commended to humans along with sanctions for moral disobedience and rewards for following them. The development of ethics in the West began when attempts were made to locate the origins of ethics in human experience and/or human reason. Human reason features in almost all the historical periods of Western history of moral philosophy, from ancient to modern and contemporary.

For any evolutionary natural historian, the idea that God created ethical theories is somehow difficult to accept, as *prima facie*, the evolutionary theory itself does not accept God's intervention in nature.[45]

Again, human reason as the sole foundation of morality is also questionable. As Callicott, arguing on behalf of Leopold points out, "reason appears to be a delicate and recently emerged faculty. It cannot, under any circumstances, be supposed to have evolved in the absence of complex linguistic capabilities which depend, in turn, for their evolution upon a highly developed social matrix.'[46] Hence, to be social beings, there must be, in the language of Leopold, "limitations on freedom of action in the struggle for existence.'[47] It is obvious from the above that we acquire ethical properties before reasoning as a capacity develops in us.

The evolutionary portrayal of the Darwinian understanding of ethics begins with the world of animals that are motivated by sentiments and feelings, which in the case of humans are 'amplified' and 'informed' by reason. 'Land Ethic' of Leopold would be developed on the basis of the Darwinian thesis that the beginning of ethics is the filial and paternal relationship common to all mammals. This filial and paternal affection leads to the formation of the primary social group (family). When such feelings and affections are extended to other individuals closely related, then the family groups get enlarged, which when further extended becomes a community. In this extension at every stage, on the one hand, the formation of groups and its extension helps in the protection of individuals in the group and providing for their existence and survival. On the other hand, as the filial bonds get diffused the more the group is extended leading to community. Evolutionist scholars label the feelings among the individuals of these enlarged groups as "social sentiments".

Darwin's evolutionary ethics begins with 'social sentiments' 'beneficial' to the community, rendered as such by man's 'intellectual powers' (which can recall the past and speculate the future), with 'the power of language' (that can convey 'common opinion'). The resultant behaviour is deemed by common opinion as socially acceptable and beneficial.[48] It is obvious from the above that Darwin and other evolutionary philosophers treated moral feelings on par with physical faculties. Leopold, accepting Darwinian model believes that ethics originates in the individuals' or groups' tendency to create patterns of cooperative behaviour.

With the arrival of the 'global village' concept, there are radical institutional/societal changes and corresponding changes in value structures. But even when there are the conflicting societal and institutional changes, there seems to be a direction towards the construction of a global value system of human ethic. The articulation of 'human rights' at all levels of national and international forums is an example of evolution of such a global ethic. The next step of evolution is the formation of one society worldwide, one 'community' with common value structures generally agreed upon as envisaged by Darwin.

Leopold agrees with Darwin's analysis of origin and growth of ethics. He, however, enlarges the concept of global community, which according to him is the next logical step in the evolutionary process. For him the ethic of universal humanity is incomplete unless it "enlarges the boundary of the community to include soils, waters, plants, and animals or collectively: the land".[49] Leopold throughout his work *The Sand County Almanac* concentrates on transforming the 'community' into the 'land community' which is the 'biotic community' comprising of soils, waters, plants, and animals collectively. 'Land Ethic' is the new ethics of ecology that will emerge in the cultural consciousness. Human society, according to Leopold, exists on the basis of mutual security. Further, this society is based upon economic inter-dependence. However, it continues to exist only because of 'limitations of freedom of action in the struggle for existence'. Leopold further argues that both human society and the biotic community are essentially similar in their functional structure – the former is preserved by 'limitations of freedom of action in the struggle for existence', the latter by 'limitations of freedom of action by land ethic'. This moral response to the environment proves that Land Ethic is not only 'an ecological necessity' but also an 'evolutionary possibility'. What requires to render this possibility into a necessity is 'universal ecological literacy', opines Leopold.[50]

J. Baird Callicott, who is an advocate of a moral theory that provides protection to the biotic community, points out that Land Ethic rests on three scientific concepts: evolution, ecological biology and Copernican astronomy. With the help of the evolutionary theory, Land Ethic seeks to connect ethics with structures of society and their

development. Evolutionary theory creates both a diachronic link between humans and non-human nature as well as a synchronic link between the two. While diachronic connection helps us to observe the evolutionary changes occurring between human societies from primitive times to modern complex societies and the changes that occur in their moral or value systems, the synchronic connection provides us with the concept of 'biotic community', namely, an integration of human beings, animals, plants, waters, soils etc. "all interlocked in one humming community of co-operations and competitions, one biota."[51]

Leopold, according to Callicott, seem to see the earth as a small planet in an unbounded hostile universe full of large planets. Earth is no longer the centre of the universe and the most significant of all planets and stars etc. in the Copernican astronomy. Callicott believes that this may have contributed, though not consciously, to a sense of community living, dependence on each other and development of kinship among the inhabitants of the earth. It may be noted that there is no direct reference in Leopold's writings regarding the influence of Copernican astronomy. This seems to be Callicott's reading of Leopold's 'Land Ethic'.

Callicott summarises, in the following, what he sees as the most important elements that went into the making of Land Ethic: (1) Copernican cosmology that has contributed to a sense of community living, dependence on each other and development of kinship among the inhabitants of earth, a planet in a rather hostile universe; (2) Darwin's natural history of ethics that showed how from the first moral pronouncements that were attributed to gods to ethics based on reason, is the result of evolution in natural history; (3) Darwin's understanding of kinship that illustrated that 'kinship' is prevalent amongst all forms of life; (4) Charles Elton's conception of an "economy of nature" that demonstrated how the natural world is like corporate society in which individual animals and plants have their own spaces or 'niches' in the 'economy of nature'. This biotic community, like the old feudal societies, does not allow any mobility or change in one's "roles" or "professions"; and (4) Hume's moral psychology which explained that ethics is the result of sentiments or feelings which may or may not be strengthened by reason.[52]

The logic of Land Ethic is that natural selection recognizes the implicit nature of humans that they are capable of a moral response in a situation where kinship, identity and community are present. Hence, natural environment is recognized as biotic community which gives rise to an ethics that Leopold labeled 'Land Ethic', a variety of environmental ethics. Given the contemporary conditions of growth of human knowledge, the level of environmental awareness or education, land ethic is possible, according to Leopold. Again, given the fact that humans have the capacity to destroy the basic features of environment, namely, stability, diversity and integrity, it is necessary that we accept such an ethic.

There is one important feature of Land Ethic that needs to be reflected upon. Kenneth Goodpaster, another advocate of Land Ethic, claims that there is implicit to Leopold's Land Ethic "moral considerability"[53] for the biotic community. First and foremost, human being's role as conqueror is changed to being part of land community on par with other fellow members such as animals, plants, soil, water and other members of the biotic community. There are in this both the individualistic and holistic claims to 'moral considerability' as the moral concerns change from the individual members of the biotic community, to the biotic community as a whole. Callicott highlights this by pointing out that in "The Outlook", humans are mentioned as members of the biotic community in the beginning of the discussion, but later on simply referred to as 'species'. The gravity of this change is reflected in the summary statement when Leopold declares: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise".[54]

The moral right or wrong in the above moral maxim would give rise to serious consequences. A farmer would be morally wrong to clear the wood to arrange for a larger farming plot if the slope of the area is seventy five percent. It would be wrong on the part of the government to allow increase in inhabitants of wild plant eating animals, as it would affect the biotic community. In other words, whatever is allowed unchecked to increase or expand that threatens 'the stability', 'integrity' or 'beauty' of the biotic community, is morally wrong. In the words of

Callicott: "land ethic not only provides moral considerability for the biotic community per se, but ethical consideration of its individual members is preempted by concern for the preservation of the integrity, stability, and beauty of the biotic community".[55] This position gives rise to serious difficulties for which there has been strong social reaction in some academic circles. Will the ever increasing population of human beings be restricted or humans as members of biotic community be culled because they threaten 'the stability', 'integrity' or 'beauty' of the biotic community?

VI

The debate concerning man's relationship with nature in this paper calls for an analysis on the basis of the metaphilosophical claims made by the proponents. Depending upon the type of attitude taken by the authors, whether defensive or offensive, there are two types of positions that can be taken regarding the natural world: *subjective* or *objective*. The objective is the framework that scientists employ regards the publicly verifying descriptions of external phenomena that can be observed and measured. It is not only natural scientists, but also some social scientists (with positivist inclinations) who attempt such observations/studies. The subjectivist methodological framework depends upon the internal characteristics of the observer. Humanities and arts are disciplines that depend upon such subjective interpretations of the phenomena.

At another level, studies regarding the relationship of man to the natural world may be distinguished as *reductionist* or *holistic*. The reductionist approach assumes that understanding complex reality would imply understanding behaviour or function of its constituent parts. In natural sciences, reductionist approach is used when we claim that the nature of biological cells is understood if we investigate molecules. In social sciences, methodological individualism is a similar case. On the other hand, the *holistic* approach accepts or recognizes whole as subject of investigation and that study of parts cannot account for behaviour/ function of the whole. In the holistic approach, there is the assumption of 'emergence' of qualities in the whole which otherwise would not be observed in the parts separately.

Employing I.G. Simmons'[56] types of constructions analysis, the following conclusions could be drawn.

Theory	**Subjective/ Objective**	**Holistic/ Reductionist**
James E. Lovelock's *Gaia Hypothesis*	Objective	Holistic
Aldo Leopold's *Land Ethic*	Subjective/Historical	Holistic
John Passmore's *Attitudinal Explorations*	Subjective	Holistic/ Naturalistic
Roger J. H. King's *Contextualism*	Objective	Reductionist/ contextualist

Analysis of the views of the above four representative thinkers who have contributed to our understanding of man-nature relationship, reflects their commitments to their research methodology and their original disciplines. First, it is not surprising that James E. Lovelock's interest and training in natural sciences particularly chemistry, led him to believe in laying down objective criteria while arguing for 'Gaia concept'. But his holistic approach, which was an extension of this concept beyond, was unacceptable as evolutionists believe that evolution occurs at the level of individuals. Secondly, Aldo Leopold's closeness to nature/forests/wilderness in his capacity as forester and later on as conservator, led him to constantly reflect on history of societies in general, and history of mankind as a whole. It is these reflections that led him to believe in a theory of origin, growth and development of morality in evolutionary terms. At one level these are at best subjective reflections, but at another level they reflect the societal or community concerns. It is in this sense, they are holistic in nature. Thirdly, John Passmore's attitudinal explorations, by their very nature are subjective. The new metaphysics proposed by Passmore is not holistic in an exact sense, but non-reductionist as it is reflective of nature as it is. And

finally, Roger J. H. King's critique of animal liberation protagonists, land ethic interpreters, defenders of primitivism and ecofeminists, is objective in the sense that he has contextualised their positions whereby showing how their theoretical positions would be inadequate when generalised to a larger whole.

Notes and References

1 Quoted in R. F. Nash, (1989) *The Rights of Nature*, Wisconsin: The University of Wisconsin University Press, p. 13.

2 Kenneth Goodpaster and Paul Taylor in particular argue in this direction.

3 "The Ethic of Reverence for Life" http://www.animal-rights-library.com/texts-c/schweitzer01.pdf

4 'Nature' here refers to part of the environment that is neither humans nor non-human animals.

5 Dale Jamieson, (2010) *Ethics and Environment*, Cambridge: Cambridge University Press, p. 149.

6 Dale Jamieson gives example of value of rope one is holding while hanging from a cliff is superior although the man holds the rope with instrumental value, in comparison with the stamp collection he has at home is of intrinsic value.

7 X buys a painting to place on the wall where there is a hole. This gives the painting an instrumental value. However in due course of time, X begins to value the painting *per se* thus ascribing to it intrinsic value. So much so that X places the painting in a pre-eminent place in the living room so that it is appreciated by one and all. In due course of time, X gets tired of the painting and it also reminds him of bad childhood experiences. X shifts the painting to its original place to hide the hole in the wall, as the painting no longer has intrinsic value to him. This type of change between something being of instrumental value and then of intrinsic value, and at a later stage, turning out to be of instrumental value, and so on and so forth, is a common phenomenon in ascription of values that we experience. This points out to the fact that our evaluation processes are 'dynamic' in character, and change under different conditions and circumstances. Dale Jamieson, (2010) p. 154

8 Woods, Mark (2011), "Intrinsic Value", in Dustin Mulvaney and Paul Robbins (Ed.) *Green Politics: An A to Z Guide*, Thousand Oaks, CA: Sage Publications, pp. 248-250.

9 John Rodnam, "Liberation of Nature", *Inquiry*, Spring 1977, p. 89. Quoted in Dale Jemieson, (2010), pp. 154-155.

10 Use of the term Gaia, the great mother of Greek mythology, Goddess of Mother Earth represents a philosophical tradition that goes back to Hindu Ancient India, Taoism, Buddhism, native North American belief systems, that 'deified' nature in order to protect the nature. Gaia hypothesis is a modern scientific attempt to project nature as the 'ultimate', 'single' reality that consists of everything. Although such an interpretation has been explicitly denied by the proponents of Gaia hypothesis, what is significant is that it echoes the old methodology of spiritual concerns.

11 Peter Hay (2002) *A Companion to Environmental Thought*, Edinburgh: Edinburgh University Press, p. 136.

12 James Lovelock, (1979) *Gaia: A New Look at Life on Earth*, Oxford: Oxford University Press, p. 9

13 Ibid.

14 James E. Lovelock, (2010) "Gaia As Seen Through the Atmosphere", in David R. Keller, (Ed.) *Environmental Ethics: The Big Questions*, Sussex, U.K.: Willey-Blackwell, p. 211.

15 Max Black in a classical article entitled "More about Metaphor", in *Metaphor and Thought*, (ed.) Andrew Ortony, (1979) Cambridge : Cambridge University Press) has given an insightful analysis of how metaphors are constitutive of advances in science.

16 'Philosophical holism' is a term used to describe a position that environmentalists and ecologists use to refer to nature as whole, that includes plants, earth, animals, humans and biosphere.

17 Lynn Margulis felt that a position such as the belief that Earth is a 'living organism' will alienate natural scientists who have been studying various phenomena that help to understand 'Gaian hypothesis'. In 'Jim Lovelock's Gaia' Margulis provides an alternative understanding of 'Gaia' when he labels it as "an extremely complex system with identifiable regulatory properties which are very specific to the lower atmosphere". Quoted in Peter Hay (2002) p. 136.

18 James W. Kirchner, (2002) "The Gaia Hypothesis: Fact, Theory, and Wishful Thinking", *Climatic Change, 52,* pp. 391-408.
19 Ibid. p. 393
20 Ibid.
21 Ibid. p. 393-394.
22 Ibid. p. 394
23 Ibid. p. 395
24 Three cases are reproduced here to show that there is both negative and positive feedback in biosphere-atmosphere linkage: (i) "Warmer temperatures increase fire frequency, leading to net replacement of older, larger trees with younger, smaller ones, resulting in net release of carbon from forest biomass (positive feedback)". (ii) "Warming may lead to drying, and thus sparser vegetation and increased desertification, in mid-latitudes, increasing planetary albedo and atmospheric dust concentration (negative feedback)". (iii) Warmer temperatures lead to release of CO2 and methane from high-altitude peatlands (positive feedback). (Ibid. p. 396)
25 Cf. Ibid. p. 398-399.
26 Ibid. p. 399.
27 John Passmore,(2010) "Attitudes to Nature", in David R. Keller, (Ed.) *Environmental Ethics: The Big Questions*, Sussex, U.K.: Willey-Blackwell, pp. 107.
28 Ibid. p.103
29 Ibid. p. 105
30 Cf. Ibid. p. 108.
31 Ibid.
32 Cf. Ibid. p. 109
33 Cf. Roger J. H. King, (2010) "How to Construe Nature: Environmental Ethics and the Interpretation of Nature" in David R. Keller,(Ed.) *Environmental Ethics: The Big Questions*, Sussex, U.K.: Willey-Blackwell, p. 352
34 Ibid. p. 353
35 Peter N. Carroll, (1969) *Puritanism and the Wilderness: The Intellectual Significance of the New England Frontier*, New York: Columbia University Press.

36 Mark Sagoff, (1974) "On Preserving the Natural Environment", *Yale Law Review* 84, pp. 245-252
37 Roger J. H. King (2010), p. 353
38 King was referring to J. Baird Callicott's essay on "Animal Liberation: A Triangular Affair", in *In Defense of the Land Ethic*, Albany: State University of New York Press, 1989.
39 Roger J. H. King (2010), p. 355
40 Ibid. p. 356
41 Ibid. p. 357
42 Cf. J. Baird Callicott, (2010) "The Conceptual Foundations of Land Ethic", in David R. Keller, (Ed.) *Environmental Ethics: The Big Questions*, Sussex, U.K.: Willey-Blackwell, p. 202.
43 Aldo Leopold, (2010) p. 193.
44 J. Baird Callicott, (2010), p. 202.
45 The reference here is to the mainstream evolutionary scientific theories of Darwin and his followers. One does accept that there are alternative models by Pierre de Chardin and Sri Aurobindo who tried to use the evolutionary theories for deriving spiritual teleological conclusions.
46 J. Baird Callicott, (2010), p. 203.
47 Aldo Leopold, (2010) p. 193.
48 Cf. Charles Darwin, (2010) *The Descent of Man and Selection in Relation to Sex*, summarised in J. Baird Callicott, p. 203.
49 Aldo Leopold, (2010) p. 194.
50 Cf. Ibid.
51 Aldo Leopold, (1953) *Round River*, New York: Oxford University Press. Quoted in J. Baird Callicott, (2010), p. 205.
52 J. Baird Callicott, (2010), p. 205
53 Cf. Kenneth Goodpaster, (2005) "On Being Morally Considerable", *Environmental Philosophy*, Vol. I, pp. 115-131.
54 Quoted in J. Baird Callicott, (2010), p. 206
55 J. Baird Callicott, (2010), p. 206
56 I.G. Simmons, (1993) *Interpreting Nature*, London: Routledge.