DOI: 10.5281/zenodo.4266627
Stable URL: http://doi.org/10.5281/zenodo.4266627
JPJRS 9/1 ISSN 0972-3331, JAN 2006 5-20

Cite as: Karuvelil, George. (2006). Contemporary Ecological Crisis: Tracing Its Emergence (Version 1.0). Jnanadeepa: Pune Journal of Religious Studies, Jan-June 2006 (9/1), 5-20.
http://doi.org/10.5281/zenodo.4266627

The Contemporary Ecological Crisis: Tracing Its Emergence

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Abstract:

In this article the author asks the question: How has the ecological crisis come about and what can be done about it? Obviously the treatment of an ailment would depend on the diagnosis. When the diagnosis is misguided and overly romantic, so would be the proposed remedy. By "overly romantic" the author refers to those views that are out of touch with the living reality of nature as experienced by those who live in nature. Such romanticised views invariably originate from theoreticians of urban, industrial backgrounds. It is only by exposing such overly romantic notions and coming to a more realistic understanding that we can begin to search for appropriate remedial measures. This paper is an attempt to do the former task, i.e., to critique some of the overly romantic diagnoses that are sometimes held to be responsible for the ecological crisis and offer what the author considers a more realistic diagnosis. The author traces the roots of the contemporary ecological crisis to the growth of capitalism, which was facilitated by the mathemaatisation of nature and the protestant reformation.

Keywords:

Ecological crisis, diagnosis of the crisis, romantic analysis, nature as a machine, commodification of nature.

The ecological crisis we face is real. It has led us to "genocide (the destruction of peoples), biocide (the destruction of life), ecocide ((the destruction of eco-systems) and geocide (the destruction of the earth)."[1] How has this come about and what can be done about it? Obviously the treatment of an ailment would depend on the diagnosis. When the diagnosis is misguided and overly romantic, so would be the proposed remedy. By "overly romantic" I refer to those views that are out of touch with the living reality of nature as experienced by those who live in nature. Such romanticised views invariably originate from theoreticians of urban, industrial backgrounds. It is only by exposing such overly romantic notions and coming to a more realistic understanding that we can begin to search for appropriate remedial measures. This paper is an attempt to do the former task, i.e., to critique some of the overly romantic diagnoses that are sometimes held to be responsible for the ecological crisis and offer what I consider a more realistic diagnosis. Let us begin however, with some general considerations.

Ecology, by its very nature is a relational concept. The word comes from the Greek *oikos*, meaning "house" or "habitat". Thus it signifies a discourse about home. It is the study of the relationships of living things to their surroundings. Surroundings, in this context, are understood as the environment of the organism. And it includes living and non-living surroundings. Environment is of supreme importance to any organism, since its very survival depends on how the organism interlocks with other organisms as well as its inorganic surroundings. This relational aspect of ecology is emphasized by Rajendra Kumar when he observes,

> Although the fauna and flora of an area must be identified and enumerated, and although the physical forces at work in the area must be recognized, neither an account of the biota nor a description of the habitat constitutes an ecological investigation. Similarly, if a man rises at daybreak and makes a list of the birds he sees without any consideration of the relation of the occurrence of these species at [sic] other factors, he is not an ecologist.[2]

If ecology is a relational concept by its very nature, this must be the starting-point of any philosophy of ecology. It is not surprising, therefore, to find writings on ecology – whether dealing with the ecological crisis, or dealing with alternatives to the present scenario – centre on our relationship to nature. The roots of the contemporary ecological crisis are traced to one way of relating to our environment and the suggested solutions recommend another kind of relationship. It is these relations that we need to explore in tracing the roots of our ecological crisis.

1. The Diagnosis of the Romantics

The following incident narrated by Thomas Derr gives us a good picture, not only of the eco-romance of the elite, but also of two other approaches to nature.[3] In 1971, Sicily's volcano Mount Etna was erupting. One day a group of tourists, among the thousands flocking to see the spectacle, were watching the lava flow destroying all in its path. Fascinated, this group of tourists cheered as the flow reached the road on its way down. But the local farmers were not amused; they were enraged that these people should take so much pleasure in the destruction of their fields. They shouted at the tourists and even attacked them. A few days later these farmers organized a special Mass where they implored the Virgin Mary and the local saints to intercede for them so that the flow of lava might be stopped. They believed that a similar miracle had taken place during the irruption of 1928. In the meanwhile the government began talking about using bombs to divert the lava flow so as to save the village.

The attitude and the approach of the tourists was obviously far from that of the farmers who were affected by it; still different was the approach of the government. For the tourists, far removed from the destructive impact of the lava, nature is a source of awe; overawed as they were, they cheered the progress of the lava. The farmers' experience of nature is totally different: it is a half-enemy, a source of good and evil, whose next move is unpredictable. Their religion is a way of coping with this unpredictability. The government's approach to nature betrays an attitude different from both of these. For the government, nature is an inert thing which may be manipulated for human ends. The first is a typical eco-romance

divorced from a living relationship to nature; the second is a realistic approach that arises from living and interacting with nature; the third, although arising from a living interaction with nature (as in the previous case), is a manipulative, technological approach that lacks the dimension of mystery and awe that is still present in the second approach.

Eco-romance is not necessarily tied to being overawed by nature as in the case of those tourists. It could come from an uninformed or a one-sided view of history. Let us examine some of these alleged villains.

1.1 Agriculture and Human Greed

Upon one diagnosis of the present ecological crisis, for example, the whole trouble started with the beginning of agriculture around 8000 B.C., which then spread across the globe![4] The reasoning is that agriculture is based on the tendency to store food rather than collect it. In our romantic fantasies we tend to picture the primitive people as living in perfect harmony with "Mother Nature", which is said to be destroyed by the human greed for possessions. Thus begins the story of the "Takers" (the greedy ones who accumulate) as opposed to the "Leavers" (those who let the earth be).[5] While no one should doubt the important role played by human greed in the ecological degradation of our planet, to blame it all on greed is to be ignorant of historical facts and empirical data. It is not just that empirically the agrarian people were attached to the earth they cultivated. There are more important considerations. First of all, pre-modern societies did not encourage greed, but condemned it, as we shall see in the next section (see, 2.2). Moreover, even if they wished to destroy the environment, they did not have the ability to do it. The pre-modern agrarian cultures, dependent as they were on the vagaries of nature, had no other choice than to endure the cycles of glut and shortage.[6] Philip Ashby is correct in observing that "Even if one should have wished to destroy the ecological balance, pre-industrial technology simply did not have the means to produce such destruction. Until the present century not even the most perverted of intentions would have succeeded in

destroying the ozone layer, saturating our food with harmful chemicals or polluting the Alaskan coastline."[7]

1.2 The Objectifying Intellect

Other romantics would make culture, rather than agriculture, the root of our problems. Put in such general terms, of course, it becomes a truism. The problem is in identifying the particular strand of the vast, complex and varied mosaics we call cultures from which the present crisis has risen. And there the problems begin. Some trace it to our dichotomizing intellect: we tend to think of ourselves as subjects who think of the world as an object. And Descartes emerges as the villain in this way of thinking. This is said to lead to the manipulation of nature, the object. Ecological problems arose when the attitude of respect and veneration gave way to an eagerness to conquer and possess.[8] Thus nature, that was essentially maternal and divine, becomes a mere deposit of material resources to be exploited for human ends.

What such romantic notions of Mother Nature neglects is that if it is a mother, she has also the tendency to devour her own helpless children. While the numerous creatures of the earth are fed on the ample breasts of this mother, she also hides in her bosom the treacherous earthquakes and the tsunamis, the volcanic irruptions and the devastating floods. It is only by ignoring this treacherous side of Mother Nature and the accompanying response of awesome terror can anyone say that her "primitive" children treated her exclusively with respect and veneration. Such romantics need to be reminded: "Since primitive times man has been altering his environment dramatically, in ways that upset ecological balances. Early hunters used fire to drive out their game. Agricultural people everywhere clear fields and dam streams and wipe out stock predators and kill plants that get in the way of their chosen crops."[9] To assume that there was a time when humans identified themselves with nature without objectifying it with their dichotomizing intellect is to engage in sheer fantasy. Even if that assumption is granted for the sake of argument, any return to that state is not a possibility open to us. "Returning to an innocent, unselfconscious identification with the world in which we find ourselves would be to surround ourselves

with *loyal* dogs, *proud* peacocks, *horridly half-human* apes, *self-sacrificing* lambs, and human beings themselves identified by their social roles and imagined histories."[10] The fact that we tend to describe our surroundings with such adjectives gives an indication of how far removed from reality this romantic picture is.

With a simple-minded approach, it is not difficult to trace the contemporary ecological crisis to a certain alleged blind spot in Western thinking. If ecology by its very nature is a relational concept as we have maintained, it must be conceived as the study of relationships, and not of individual substances. And relations seem to be a blind spot in Western thinking. According to Vincent Bruemmer, this is inherited from its Aristotelian DNA. "Since Aristotle, our [Western] intellectual tradition has been infected by the ontological prejudice that there are only two sorts of reality: substances and attributes. This makes it very difficult to conceive of relations in an adequate way, since they fall into neither of these two categories. Consequently the tendency has been to interpret relations as though they were attributes of one of their terms."[11] While this observation has some plausibility in the context of the analysis of love that Bruemmer is concerned with, how wrong would an extrapolation of this observation be if applied to an analysis of the ecological crisis becomes obvious when we consider that Aristotle's philosophy has been with us for more than two millennia whereas the sort of ecological problems we are talking about are largely a twentieth century phenomenon.

1.3 Christianity

There are some theoreticians who trace our ecological crisis to the "Christian axiom that nature has no reason for existence save to serve man."[12] This view was forcefully expressed by Lynn White, way back in the 1960s. Since then it is often taken as axiomatic that the current ecological crisis is the illegitimate child of the unholy union of the biblical injunction to "dominate" the earth with the Platonic dualism and its alleged contempt for all things earthly and material. Historical Christianity, this illegitimate offspring, then latched itself on to a transcendent God who lived somewhere out

there resulting in Christians looking down on the material earth and subjugating it with an attitude of contempt.

Stephen Clarke reminds these "experts" who would blame Christianity for the present ecological crisis, that the biblical theists were convinced of the sacramental importance of this material world. To take a concrete example, the dominant morality of medieval Christianity was against even mining, because they considered it a literal devastation and metaphorical rape of the earth. The commercialization of the earth that took place later was done in the face of strong resistance from the Church.[13] Then there is the idea of Christianity rooting itself in a transcendent God so as to cultivate an attitude of plundering the "Mother Earth". This also does not stand scrutiny in the light of Boulding's observation about the Benedictines. With them, manual work on the land became something respectable; here was a group of intellectuals for whom working with their hands on the soil was sacred worship.[14] What needs to be noted is that while renunciation and monastic practices are found in different religions and different parts of the world, manual labour on the soil as a sacred duty seems to be a unique Christian development. So much for the Christian contempt for the material world in the pursuit of a transcendent God!

What we need to learn from these simplistic explanations is that we must stop looking for caricatured villains – whether they be Plato or Christianity, or human greed or power and profit. A more nuanced understanding of the emergence of the ecological crisis must begin with the realization that complex historical and cultural happenings do not have mono-causal or linear explanations. At the same time we must not level up all the past by saying that altering nature has been done by human beings since primitive times. That remains an uninteresting truth that ignores the important fact that the emergence of the present day ecological crisis –involving the destruction of the ozone layer and large scale nuclear and chemical pollution— is unprecedented. It is not comparable to the impact of any fire used by the primitive hunters to drive out their game or the clearing of fields done in earlier forms of agriculture. There is no denying the fact that the modern world has developed a culture and a behaviour pattern that has no parallels in the past. It is a culture

that has promoted and continues to promote the death of our environment and the reckless exploitation of its non-renewable resources. Thus although fully aware that we must not blame individual thinkers (Plato, Aristotle, Descartes etc.) for wholesale cultural shifts, we must at the same time keep looking out for developments that paved the way for such shifts in thinking that brought us to where we are.

2. A Realistic Understanding

The decisive development that has brought about this shift is the growth of the market system and capitalist economy. This, in turn, was facilitated by other, earlier developments, the most important of which were perhaps the mathematization of Nature and the Protestant Reformation. The former leads to a mechanical philosophy of nature and the latter to a reversal of the treasured values of a culture. Together they lead to the commodification of the earth.

2.1 Nature as a Machine

Earlier we made the observation that the pre-modern societies, even if they tried to damage the environment, did not have the wherewithal to do it on the scale that is prevalent today. That capability is one of the bitter fruits of modern science. Crucial to the development of modern science is what has come to be known as the mathematization of Nature.

The development of modern science was a gradual process. But the turning-point was the Copernican insight. And the immediate reason for Copernicus to adopt the heliocentric view was not any practical consideration, but the mathematical discrepancies shown by the earlier geocentric view. Copernicus saw that if he were to give up our commonsense view and assume the sun as the centre of the universe instead of the earth, much of the discrepancies in the Ptolemaic conception would disappear. These mathematical considerations are taken further by Galileo. He realized that the nature we experience is too complex to be dealt with in any exactitude and to gain certain knowledge about. This prompts him to take a mathematical approach. He delineates the measurable aspects of

our experience of nature and treats them as objective and considers the rest of our experience as subjective. Bernard Lonergan describes the process thus:

> For Galileo the object of science was the geometrization of the world. In proposing this he had to meet the objection that is obvious to everybody that the real world is far more than what is treated in geometry. To meet that objection he drew the distinction between primary and secondary qualities. Primary qualities are inherent in things themselves. The things themselves have length and breadth; they move; they have weight and mass. These are all measurable qualities in the things themselves. But there are also secondary qualities: colour, sound, odour, taste, the feeling of hot, cold, wet, dry, rough, smooth, heavy, light. The characteristic of all these is that they are not in the thing but in the subject. ... They are secondary qualities. They result from an interaction between the real thing, which is just geometrical, and the animal.[15]

Accordingly, only that aspect of nature that is quantifiable in mathematical terms can be considered to be objectively belonging to nature. It is this distinction between primary and secondary qualities that we find in the philosophy of John Locke.

The dramatic success of mathematization is there for all to see. For the first time, modern science held out to humans the promise of deliverance from the cruelties of nature –recurring natural calamities, plague and disease. The moderns dreamt of a future when they would no longer be at the mercy of nature; rather, they would gain absolute control over it and direct it to the attainment of human ends. It is a different matter that this promise of salvation has been belied time and again (the most recent case being the tsunami of December 2004) and the utopian vision of a heaven on earth has turned into a nightmare of ecological crisis. But that was the starry-eyed hope of the moderns in the wake of the new science. What went totally unnoticed in the heyday of modern science was that it was built on a mathematized view of nature.

Mathematization was a turning-point in as much as it led to a mechanical philosophy of nature. Till the modern period, the dominant sections of Western culture saw Nature as permeated with divine rationality and final causes. Of course, the nominalists of the earlier period play an important role in undermining this Aristotelian view of nature as a living organism with a built-in *telos*. But it is during the modern period that nature comes to be seen as an impersonal machine. This view of the cosmos as an intricate machine made up of an infinite number of particles ordered by mathematical laws became the foundation of the modern world-view. Richard Tarnas puts it succinctly: "By the beginning of the eighteenth century, the educated person in the West knew that God had created the universe as a complex mechanical system, composed of material particles moving in an infinite neutral space according to a few basic principles, such as inertia and gravity, that could be analyzed mathematically."[16]

2.2 The Reversal of Values

Once the natural world was objectified in mathematical terms and its fruits began to be tangibly felt, the next to be given the same treatment was the cultural world of politics, economics and social organization. Of these we shall concern ourselves only with the economic aspect.

Till the modern period there was no such thing as an autonomous economic realm. Economic life was inextricably woven into the social, political and religious life. Wealth was not considered a value in itself. To amass wealth for its own sake was to commit the sin of avarice. In the words of Robert Heilbroner, "The idea that each working person not only may, but should constantly strive to better his or her material lot ... was quite foreign" to much of the recorded history of civilizations.[17] Small wonder that in times of plenty, people preferred to eat and drink rather than work harder to earn more.[18] The idea of work as a means of amassing wealth did not exist; indeed, amassing riches was not a treasured value of pre-modern culture. There was no concept of land as a freely saleable, rent-producing thing that it became later in the modern world. It existed either as common pastures for grazing cattle or as manors

and principalities that formed the basis of social status and prestige. Similarly, there was no such thing as labour understood as a commercial entity that could be bought and sold; there existed peasants and workers tied to the lord's manor, but not labour as a commodity. Something similar can be said of capital.[19] Production was dictated by the constraints of customs and traditions characteristic of hereditary occupations rather than by labour-saving and efficient use of funds. Thus the pre-modern world could not develop a market system, because it did not have the concept of labour or capital, or land, understood as impersonal economic entities.

Various factors contributed to the change from this situation to that of the modern, economic world. One was the development of individualism and the accompanying democratic impulse. Among others, one of the factors that contributed to the development of individualism was, strange as it may seem, the new science and cosmology. These prompted a new scepticism towards all inherited beliefs and practices. A spirit of questioning all received traditions and authority was in the air. Descartes gave voice to this spirit in his philosophy. His manner of doing philosophy that began with questioning all received opinions gave ultimate authority to individual human reason as the infallible guide to truth. Till then, revealed truth and the received wisdom of tradition had maintained an objective authority outside of individual judgement, but in the Cartesian procedure, individual human judgement has the final say in all matters, including religious matters. Reason – individual reason – replaces revelation and tradition as the arbiter of truth. Descartes had inaugurated a new age whose motto became "Have the courage to use your own reason," as Kant succinctly put it.[20]

This growth of the modern, self-reliant individual, independent of social and religious ties, all external authorities and traditions, was furtherance of a process set in motion by Martin Luther and the Protestant Reformation. In his rebellion, he had already undermined the authority of the Pope. Monasticism and mysticism which catered to a select few was looked down upon. The salvation of all believers without the mediation of any hierarchy was the new mantra. What Descartes did was to grant to all in a general way what Luther had granted to all the believers. This democratic impulse and

individualism are very important in the development of the competitive market economy.

Many authors, beginning with Max Weber, have traced the emergence of capitalism to the Reformation and the Protestant ethic. The Protestant Christian, deprived of the Catholic recourse to sacramental justification, had to depend solely on the inscrutable will of a God who had pre-destined some to eternal salvation and others to damnation. This religious scenario, together with the absence of the unifying power of Christendom at the socio-political level, was bound to create a sense of insecurity. On the other hand, there was the heightened sense of the individual and his freedom. The insecurity led the striving Protestant Christian to look for signs of being among the elect. Since the monastic bend of Catholicism was replaced by an exclusive devotion to duty and one's profession in the world, it was success in one's worldly calling that came to be considered the sign of being among the elect. The ensuing ethic of hard work, together with the Puritan[21] demand for renunciation of pleasure, contributes to the accumulation of capital and the eventual growth of capitalism.[22] Once the accumulation of capital begins to be taken as a value, it sets in motion a process that carries forward on its own steam. In the words of Tarnas,

> Whereas traditionally the pursuit of commercial success was perceived as directly threatening to the religious life, now the two were recognized as mutually beneficial. ...In time, much of the originally spiritual orientation of the Protestant discipline had become focused on more secular concerns, and on the material rewards realized by its productivity. Thus religious zeal yielded to economic vigour, which pressed forward on its own.[23]

This is an extremely significant development that changes the entire value orientation of Western culture. In the new Christianity, accumulation of wealth was a religious virtue. Being economically backward was a sign that God was not with them or even if he were, he had turned his back on them! Once money and capital, and not human well-being, becomes the driving force of the economy, accumulation of wealth becomes an end in itself, replacing the Judaeo-Christian God as the sole legitimate end of human life. Work

was no longer the sacramental activity it was for the Benedictines, but the means of becoming rich.

2.3 The Commodification of Nature

When this drive for democratic, personal accumulation is conjoined with an impersonal, mechanical view of nature, the stage was set for the new economy. Common pastures became private properties and the new "owners" could engage in a no-holds-barred exploitation of its resources without any moral compunction. It was not merely an exploitation of what is there, but also its modification. The rich bio-diversity of the previous times, for example, gave way to mono-cultural cultivation and animal husbandry so as to make it economically viable in the competition of the market place. Modern science, with its mathematical approach, had supplied the technology for both exploitation as well as newer forms of manipulation. Thus we have the unholy combination of the religious zeal for secular success, heightened individualism with its democratically competitive greed cut off from social and religious constraints, a new awareness of the seemingly endless resources of this planet, and newer and newer technology that provided the tools for exploiting and manipulating nature. And the result is there with us today.

We stand at the crossroads today. We have been deprived of all naïve optimism regarding science and its promises of an earthly salvation and yet cannot make an innocent return to the bosom of the tender loving Mother Earth. We are aware of the ecological havoc we have created and yet know full well that we cannot put the technological genie back into the bottle. Although we cannot turn back the technological clock, a realistic awareness of how we have reached here might prompt us to rethink the values that brought us here, without sacrificing some of the important gains of modernity. Such an awareness must become an integral part of a new cultural awakening in place of the "I buy, therefore, I am" consciousness of the present day. Otherwise the only difference between us and the pre-moderns would be this—they were at the mercy of the vagaries of nature and we would be at the mercy of blind market forces, even more than those of nature.

Notes

1. Jose Ramos Regidor, "Some Premises for an Eco-Social Theology of Liberation." Concilium, no. 5 (1995): 78-93. p. 80.
2. Validin Rajendra Kumar, "Moral Dilemma in the Ecological Crisis: A Christian Response to It in the Context of India.", University of Mysore, 2002.
3. Thomas Sieger Derr, Ecology and Human Liberation: A Theological Critique of the Use and Abuse of Our Birthright, 1973, p.5
4. This view is found in Daniel Quinn's novel Ishmael. Relevant excerpts of an extensive nature are to be found in Kuruvilla Pandikattu, Tamas: Alternative Ways of Viable Existence. Mumbai: World-Life-Web, 2002.
5. *Ibid.*
6. Stephen R. L Clark, *How to Think About the Earth: Philosophical and Theological Models for Ecology.* New York: Mowbray, 1993, p.10
7. Philip Ashby, "The Biblical Monotheistic Approach to Nature." In *Science and Spirituality,* edited by N.K. Singh. New Delhi: Global Vision Publishing House, 2005.
8. Joseph Peruma, *The Motherly Earth: An Ecological Ethics of Human-Nature Relationship.* Malleswaram, Bangalore: Claritian Publications, 2002.
9. Derr, p. 19
10. Clark, p. 16. Italics added.
11. Vincent Bruemmer. *Model of Love: A Study in Philosophical Theology.* Cambridge: CUP, 1993, p.33-4.
12. White, 'The Roots of our Ecological Crisis', *Science*, 155 (1967), pp.1203-7, cited in Clarke, p.8
13. Clarke credits this finding to *The Death of Nature* by Caroline Merchant (Wildwood House: London, 1982)
14. K. R. Boulding, *Meaning of the Twentieth Century* (Harper & Row: New York, 1964, p.6. Clarke, p. 10.
15. Bernard Lonergan. *Topics in Education.* Edited by F. & Doran Crowe, R.M. Vol. 10, Collected Works of Bernard Lonergan. Toronto: University of Toronto Press., 1993, p.180-81. see also, Lonergan (1992), 107, 153. Husserl's brief mention of the distinction between primary and secondary qualities is to be found in (1970) 30 n.
16. Tarnas, 270-71

17. Robert L. Heilbroner. *The Worldly Philosophers: The Lives, Times and Ideas of the Great Economic Thinkers.* New York: Simon and Schuster, Inc., 1992, p.25
18. *Ibid.* p. 24
19. *Ibid.* pp. 28-29.
20. Kant, "What is Enlightenment?" cited in Stanley J. Grenz, *A Primer on Postmodernism,* (Grand Rapids: William B.Eerdmans Publishing Company, 1996), p85
21. Puritanism is a religious movement that arose in the Church of England in the 16th and 17th centuries and eventually spread to the other countries, especially the new world. They opposed the alleged unscriptural, Catholic forms of religiosity and sought to substitute it with the Calvinist model of predestination. They also emphasized simple lifestyle.
22. This is an extremely simplified version of the analysis of Max Weber with his emphasis on the role of the Puritan ethic in the growth of capitalism and the analysis of W.P. Webb which complements Weber in as much as it also explains why capitalism did not grow in the Catholic countries.
23. Tarnas, 246.