Cosmic Piety and Ecological Rationality

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abstract: This article explores the growth of new forms of worship as embodied in the ecological veneration of the cosmos. It shows how cosmic piety is becoming an essential component of modern culture in the current context of globalization, which frequently incorporates some crucial forms of rationality. Very often, the sacralization of nature appears to be a necessary precondition for the practice of ecological rationality given certain cognitive limitations and everyday anxieties of large populations in the contemporary world. The rise and fall of an ecocentric or cosmocentric mythology are considered, together with its consequences for societal adaptation to global environmental change.

keywords: charisma ✦ cosmic myth ✦ ecological rationality ✦ ecoreligion ✦ global environmental change ✦ mythology ✦ rationality ✦ religion

Introduction

Religions, whether new or long established, tend to absorb and reflect the concerns and anxieties of their times. Even when they represent a flight from reality and advise their followers to seek refuge in otherworldly concerns, religions pass judgement upon, and somehow incorporate in themselves, the conditions under which they arise and thrive. The ecological preoccupations of our era have accordingly found a variety of responses and incorporations into today's diverse faiths and cults. More significantly, they have often been a powerful source of religious innovation.

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In this article we are not interested in drawing up a taxonomy of religions according to the mode of their particular relationship to ecological concerns. Our purpose is rather to look at the incorporation of such concerns into the world of religious faith and action and, especially, to consider the significance of this phenomenon for the exercise of rationality. We intend to explore some of the rational components of ecoreligion and their repercussions in terms of social behaviour and policy formation as they relate to global environmental change.

In order to do so, we focus our attention upon some religious responses to global environmental change. The latter is only one aspect of ecological concern, albeit a very important one. On the one hand, it entails modifications that must be perceived by humans as cosmic, since environmental change is bound to be seen to affect the ultimate order of the earthly universe. This, in turn, must necessarily affect religious docrine as well as secular ideological, political and philosophical conceptions. On the other hand, it implies serious world environment modifications which are bound to have repercussions on our conceptions of what constitutes rational action and a rational social order.

Our article intends to explore the relationship between these two different aspects of the cultural situation produced by the rise of popular concern with widespread environmental change, now widely perceived as a threat or risk for the first time.[1] It also draws some conclusions about the rationality (or otherwise) of religious ecobeliefs and ecoreligion as well as about the rationality (or otherwise) of the conduct inspired or prescribed by them.

Our analysis is based on a notion of the rational components of some non-rational or, rather, meta-rational, beliefs. For that purpose we put forward the concept of a 'rational charisma' as well as that of 'charismatic rationality'. It is our intention to argue that the spread of what we call 'cosmic piety' (a component of ecoreligion) is a necessary (though obviously not sufficient) condition for the popular implementation of ecologically rational behaviour when humankind is confronted with the pernicious consequences of a destructive process of global environmental change.

Ecoreligions

Several religions, old and new, and religious movements have incorporated the growing ecological concerns of our times into them, each after their manner (Prades, 1987). And nearly all faiths, at least in the West, have had to cope with the new ecological consciousness. In the East, environmental and nature-related issues are being used also to reaffirm their religious identities in a new manner (Pedersen, 1995). While for some

the looming ecological crisis has been considered to be a secondary development hardly needing doctrinal accommodation, for most others it has been deemed crucial. It now dwells at the core of several religious conceptions and has become a part of a variety of cults and rituals. In some cases, it has become the structuring element of that core, even if the new faith itself – ecoreligion – is essentially disorganized and diffuse. Ecoreligion is not a single faith: it is shared by more than one religion. It forms a common ground. In some cases, it may be quite peripheral within one scheme of things religious, within a clear-cut tradition. In others, however, ecoreligion may be at the core of a given faith. That is the case, for instance, of that very symptomatic amalgam of doctrines and attitudes which goes under the label of New Era. For the 'religious culture' represented by the New Era faith and its attendant cults, the pious understanding of the world in terms of ecological equilibrium is of the essence. This usually goes together with a monistic view of human nature and the universe, and a cult relationship towards life and the world, no matter which branches or versions of this widespread and nebulous conception are subscribed to by each particular group of faithful (Vernette, 1993).

A general sociological account of the rise of ecoreligion in the contemporary world need not be attempted here. For the purposes of our analysis we may confine ourselves to identifying, however sketchily, some of the developments which have given rise to ecoreligions or forced established religions to respond to the risks of global environmental change.[2] In doing so we leave out political, economic and sociostructural components and concentrate on a few of the more symbolic, doctrinal and cultural characteristics of the new religious situation. Such characteristics could be summed up as follows, grouped under four distinct thematic headings.

Environmental Anxiety

Religions provide solutions to fear and, very especially, solutions to fear resulting from mysterious and unknown, though often well-founded, threats. (Obviously, religions are other things as well: no reductionism is intended by recalling this ancient assumption here.) Harmful changes in the global environment – including the possible collapse of the life system that sustains us – are, in one sense, utterly new. Although humankind has witnessed bouts of millenarianism before, the modern threat possesses some qualities that were lacking in former 'end of the world' *grandes peurs*.[3] True, the new 'great fear' is not altogether different from the recent general fear of an atomic or nuclear universal disaster which immediately preceded it. Both the threat of a 'nuclear holocaust' – to use the popular though inappropriate expression – and the supposedly impending ecological cataclysm share one characteristic: they are seen as man-made, as

perils that could be averted by humans, through action and policy, and not by incantation and prayers alone. As the nuclear warfare threat is felt to recede, environmental disaster tends to occupy its space. But it does not displace it altogether. It rather tends to incorporate environmental fears into the new vision of global risk. Global risk perception now includes (since Three Mile Island, but more obviously since Chernobyl) nuclear mishaps, understood as episodes in a worsening environmental situation. This is provoked less by nuclear technology itself than by profound general misconceptions about our exploitation of nature and its resources, of which such technology is only a manifestation.

In the past, chiliastic movements often pointed to human sinfulness or disobedience to divine will as a cause for apocalypse. A sense of guilt for sinful transgression of natural laws is shared by ecoreligion.[4] Atonement for the latter, however, now entails a distinctly new kind of behaviour towards the natural world and its resources. The austere life of stoics or puritans of all ages referred first and foremost to their own salvation as believers. It did not directly include the environment as such, much less the wider world or even the cosmos, felt to be utterly beyond the reach of human misdemeanours. Anxiety now stems from a persistent flow of information as variously interpreted by scientists, intellectuals, journalists and ideology-mongers about a possible end to earthly survival precisely as a consequence of such misdemeanours. Their effects are therefore no longer circumscribed to the immediately surrounding environment. Global change is now seen as a consequence of human action. The human environment has expanded, and the universe around us has shrunk in proportion to our capacities to reach out to increasingly more distant places or to have recourse to ever new resources. Their growing scarcity is the consequence of our conduct.

Most of the opinion-makers that put forward these views are utterly secular in their discourse. The response, however, is often religious. Contrary to traditional assumptions about rational discourse – inherited from the Enlightenment period – there is no reason why a nuanced, critical, secular and complex presentation of problems and solutions will not elicit a religious response in many quarters, especially if it involves a message that is bound to provoke a great deal of popular anxiety and fear.

The Imperatives of Scientific Discourse

The notion that the rise of a scientific worldview and the spread of rationalism do not necessarily displace religion and magic has long been accepted. Religions, nonetheless, have had to come to terms with the hegemony of science and with a great deal of secularization. Some have had recourse to the invocation of science and its claims to truth by implying scientificity in their very names (Christian Science, Scientology), others

have engaged in an ongoing process of a not altogether easy accommodation with science (Catholic theology), while still others have paradoxically grown, as it were, on the fertile soil provided by scientific hegemony. Several forms of ecoreligion fall within this last category. They are religions for which the natural world (and humankind as an inseparable part of it) is a numinous entity, an object of pious care and a chief bearer of charisma. Yet, at the same time, they are religions that base their world picture on their own interpretation of the hypotheses and the data (seen as 'facts') that botanists, biologists, cosmologists, astronomers, demographers and many other professionals steadily supply.

Immersion in science information does not mean that such religions are scientific. Only science is scientific. Ecoreligions are often, instead, scientistic and, more often than not, only express themselves in a language reminiscent of science or pretending to be scientific. They are, nevertheless, often prone to have recourse to scientific or technical bits of information, according to felt needs. Yet, the use of such bits is often less arbitrary than may appear. Science-prone ecoreligions are avid consumers of research 'discoveries' and new scientific information. They are on the whole much readier than most traditional religions to incorporate and recast the constant flow of scientific news and opinions.

Ecoreligions remain religions but legitimize themselves through a sort of scientific discourse. Although the origins of this stance can be found in several Enlightenment cults (Freemasonry, but also Theism and Deism), that were clearly embodied later in Theosophy and other religions, the contemporary expression of the trend, especially related to global environmental change, can be found in the mystical-scientific speculations of a Teilhard de Chardin but, very explicitly, in now 'classical' statements such as Marilyn Ferguson's, in the 1970s. It was through them that the scientific imperative – the need for a thoroughly modern religious discourse to claim to be anchored also in science – found its oracles and prophets among scientists with particular leanings towards the religious view of the cosmos, as well as among some science journalists and certain intellectuals ready to work on the necessary amalgam, syncretic product or synthesis, as the case may be. Barry Commoner, Paul Ehrlich, Fritjof Capra and, again, Ferguson, are by now emblematic names in this unprecedented cultural process: the infusion of science into ecoreligion. Pantheism, organicism, ecological 'interrelationism' and human identification with the natural world became necessary ideological prerequisites for the ecoreligious view of the world to the extent that for Thomas Berry, often referred to as the most important Catholic thinker in the field of ecological theology and defender of the need for ecoreligion, we can find in our genetic coding 'the context of our relationship with the divine' (Berry, 1988: 196).

Cosmocentrism and Ecocentrism

Ecoreligions have shifted their sense of awe and piety from God, the gods, the supernatural forces and human beings towards the cosmos itself, or the creation. The specific form of veneration, or *cosmic piety*, which characterizes them does not mean, however, that the traditional supernatural forces have vanished from view, only that there has been a reordering of perceptions and a new hierarchy of religious powers: the dormant spirit or spirits of the natural world have been resurrected and come to the fore. (This may be interpreted as a new form of animism, though such a verdict does not seem to apply to every expression of cosmic piety. Yet, neo-animism can be clearly detected in some modern Earth cults and certainly in the discourse of many ecoideologists.)

The now prominent role bestowed upon the cosmos, or more often, to the Earth itself, has produced far-reaching consequences in the ecoreligious understanding of humankind. Thus, the trend towards monism, or the rejection of traditional dualism (whether Christian or Cartesian) has been very pronounced. Ever since Lovelock's Gaia hypothesis was put forward in 1979 the potential for it to become a firm (religious) belief rather than an attractive (scientific) hypothesis became evident. (The very name given by James Lovelock to the Earth, that of a Greek goddess, Gaia, the Mother Earth or Mother Nature of the ancients, established the religious connection.) The deference and piety which ecoreligions, already in the making, began to show for all forms of life was easily extended to a planet now seen as a pulsating, living organism. Although until then human beings had traditionally been conceived as mere specks in the immensity of the cosmos, some religious traditions, by endowing them with an immortal soul, had assigned them a very prominent place in the universe. For its part, a crucial western philosophical tradition, by attributing reason and moral conscience to humans, also assigned them a kind of centrality in the order of things. Precedents for the current relegation of humankind to a far more modest place in that order, as well as for cosmocentrism and an Earth cult, can be found in many kinds of historical animism as well as in several pantheistic theories. (The preoccupation of ecophilosophers with the work of Spinoza is highly symptomatic in this respect.) Nonetheless, what is described as crucial about the new cosmic pieties is their decisive shift of attention from the human being, as the chief object of speculation and study, and even from God, as an object of worship, to nature.[5]

The fact that the human being's importance as a religious animal has shifted towards the background in the new scheme does not mean, however, that ecoreligions have assigned her or him no responsibility: humans are still seen as responsible (and therefore free, and also sinful?) for today's ecological predicament and are given the task (the divine commandment?) to redeem the sacred natural world from its impending

end by either mending their ways, or by a radical transformation, converting to ecoreligion or, in a more secular cultural approach, to ecophilosophy. Even in this latter, secular, case, cosmic piety makes its forceful appearence. Thus the Deep Ecology movement explicitly prescribes veneration towards nature as part of the new ethics it deems necessary for the moral transformation it propounds in human beings and society (Naess, 1973, 1989).

Social Limits to Rational and Analytic Explanation

The sacralization of scientific discourse on the ecological predicament and the incorporation of its hypotheses and arguments into new-fangled cults, faiths and rituals may be interpreted in traditional terms as an inevitable cultural process whereby the popularization of complex theories encounters grave difficulties. According to this view, endemic popular ignorance makes it impossible for the majority to gain an unemotional, rational and well-informed view of any sophisticated interpretation of an intricate situation. Only ideologies and religions are able to convey, thereby oversimplifying or distorting them, certain higher truths to a majority that can only dimly understand them, if at all.[6] Mass culture and the media have not only been incapable of breaking the endemic limitations of the popular mind, but have aggravated its predicament by vulgarizing, oversimplifying and making banal the issues. The paternalistic and, indeed, anti-democratic undertones of such opinions are all too obvious, even though there may be more than a half-truth in some of them, for instance in the standard views about the low quality of the mass media.

There may be, however, important limits to the societal diffusion of complex scientific arguments which stem from sources other than the imagined obtuseness of the wider public. In the first place, the expansion of scientific knowledge and the coming of the so-called information or knowledge society has made it well nigh impossible for the best educated and the most sophisticated minds to grasp and explain to themselves in detail a great number of phenomena which are clear only to particular sections of the scientific, scholarly or philosophical communities. Scientific and technical explanations are thus taken on trust, not only by the public at large, but also by restricted publics and intellectual elites. In the second place, the hypothesis must now be taken seriously that, no matter how high the intelligence, the rational dispositions and the originality of a human being's mind, she or he will also show, as part of her or his very humanity, a religious inclination – including a need for metaphorical thinking and an attachment to myths. A tenable *homo religiosus* approach, however, must explicitly admit wide varieties in the intensity and manifestations of these dispositions. At any rate, the tendency for the most knowledgeable among us to form 'conceptual complexes' expressed in

non-examined beliefs and attitudes is too evident to need much discussion in the present context. There are individual and social limits to a thorough analytical and rational explanation of reality. We also know that an individual's rational practices in one field (for instance, science) are no hindrance to her or his embracing emotional and transcendent loyalities, as contemporary nationalism abundantly illustrates. Max Weber's insistence on the cold barrenness of scientific attempts to explain and convey meaning (and charisma) have found a ready echo (if not always acknowledged) among those ecotheorists who emphasize the incapacity of science in its contemporary abstraction to grasp and transmit reality itself.

Global environmental change towards an alarming worsening of the conditions of human life hides considerable complexities. Not all of them can be understood by each and every member in every intellectual community, let alone the vast citizenry of democratic countries where an open and informed debate can take place. What is crucial in this respect, nevertheless, is that such change can be comprehended rationally in its basic lineaments and that, once thus understood, it is bound to affect favourably some elementary tendencies in humankind towards self-preservation. But these, in turn, do not exist in a psychic void: they are grounded in our emotional makeup, and directly linked to our religious and ideological dimension, our tendency to express a synthetic (non-analytical), reverential and, indeed, pious attitude toward forces that transcend us as well as a corresponding hostility against those that are perceived to militate against entities endowed by us with charisma – entities deserving our reverence.

These seem to be some of the preconditions upon which the rise of religions, worldviews and ideologies (as well as much scientific and philosophical enquiry) linked to global environmental change is now occurring. Let us turn now to a more detailed examination of their general assumptions and content in order to open the way for our chief argument about the nature of the new cosmic piety and its relationships to both rationality and natural charisma today.

Charisma, Reason and Ecology

Cosmic Piety

The development of a non-anthropocentric worldview and the upsurge of a quasi-religious veneration of natural icons in the form of a new global animistic myth have been the result of a long historical process. The feeling and practice of a 'cosmic piety' constitute a large-scale emotional, mystic and, often, pseudo-scientific attempt by western societies to grasp the ultimate meaning of most relationships between human existence, the natural world and the universe. Its origins may be traced to the sympathetic reflections on plants and animals put forward by Saint Francis of

Assisi in the 13th century and to the Galilean defence of the Copernican astronomical system. Since then, many Biblical ideas on these issues have been increasingly questioned and replaced to the point that, at present, within the Christian tradition, voices can be heard to the effect that the science of ecology will also have consequences for the theology of revelation: it will mean, for them, that 'we will slowly come to recognize that we are more likely to encounter the transcendent presence of God in the natural world than in that of the Bible or the church' (Collins, 1995: 10).

Cosmic piety breaks with Biblical assumptions in at least three senses. First, it affirms that the human presence on Earth neither constitutes the reason for the existence of the universe nor is the measure of everything; second, it sees the human species as interconnected with, and not particularly different from, other living beings; and third, science and communion with the Earth are seen as means of approaching the ultimate forces that make sense of the universe and of the humans' place in it. Theories and discoveries in astronomy, geology, geography and, most recently, ecology have drawn a very different picture of the cosmos than that announced in the Old Testament. Accordingly, it has become more difficult than ever to support the view that the Earth and all its species were created independently, in six days. The theory of evolution advanced by Darwin delivered the final blow to static Biblical assertions on the origins and dynamics of the natural world. Darwin not only explained the reasons for the variations within the natural world but also provided the basis for discrediting the predominant view that the human species held an exceptional and independent character above all other life forms. For the first time in the history of western social thought, the evolution of the entire diversity of life forms, including the human one, could be explained in secular terms.

This new general picture of life and nature was in part the direct consequence of developments in positivist science. But the new western sensitivity to the natural world was not merely a product of scientists and naturalists (Nash, 1983; Worster, 1985). It also originated as a countercultural urban movement against industrialism which was, at first, particularly acute in the Anglo-Saxon world in the 18th century. From then onwards, utilitarian, ideological and aesthetic movements, linked to the growth of the urban population and the huge transformation of the land in both Europe and the USA, converged into a radically new conception in the way the natural world was perceived. The 'wilderness' was no longer seen as essentially inhospitable, nor as a world prone to lead to temptation and sin. Wild, untrodden areas became symbols for a set of emerging liberal, nationalist and romantic values where one could still find the possibility of escaping from industrial society, feel the *grandeur* of one's country, or experience an intimacy with the pristine order of a

vanishing paradise. Within the urban environment and landscape, many elements of a newly tamed nature – trees, animals, plants – were endowed with human and sentient qualities (Thomas, 1983). In the 20th century, this new way of looking at the natural world was not only strengthened by the further development of the natural sciences but particularly by several events in the decades after the Second World War. Thus public perceptual change was fuelled by information technology, images of the Earth from the space and news about rising risks of atomic energy and looming ecological disasters. Widespread anxiety about the new array of new environmental dangers was spurred on and given shape by the efforts made by a number of new sages. In turn, Rachel Carson, Barry Commoner, Paul Ehrlich or the Club of Rome provided some of the first rational bases that inspire many current environmental movements all over the world.

However, all these conceptions and theories (mostly presented in a scientific garb, or even based on solid scientific findings) also left unresolved several metaphysical issues. They stimulated new forms of accepted agnosticism and uncertainty about the ultimate rules that govern the natural world, human society and the cosmos in general. But, by the same token, they created the conditions and the need to fill the explanatory gaps with religious and pseudo-religious beliefs and attitudes. Thus many of the contemporary notions, festivals and rituals related to Gaia show that many of the non-rational components of the new way of seeing nature and the Earth have not been replaced by the positivist predominant tradition. On the contrary, new forms of non-scientific belief have appeared, albeit sometimes not necessarily hostile to the scientific or the rational mind. The recognition that life on Earth will not end with the extinction of the human species soon opened the way to a new human experience of cosmic existence. In this sense, the development of ecology as a science has affected the meaning of the transcendent. Now 'life' after death is less dependent on prayers inside a church building and more on outdoor activities designed to save the planet.

In addition, usually ecoreligious advocates believe in 'cosmodicy', the assumption that in the long run nature will impose its own rules and that environmentally sound behaviour (including a ritually correct behaviour, sin-free or free of transgressions against nature) will be rewarded with some sort of cosmic justice. The infringement of the 'Laws of Nature' by the arrogance and carelessness of human societies will, at the end, result in humans paying a toll. The analysis provided by George Perkings Marsh of the ecological causes of the decadence of ancient civilizations and the statement of the four *laws of ecology* by Barry Commoner are examples of this belief.

Cosmic piety, besides, entails the idea that humans inhabit and share their place within a bounded unity. Alfred Crosby (1986) argues that many beliefs, institutions and lifestyles of the Europeans were reinforced and

extended by virtue of their biological expansion to the rest of the world. In part, this recovered the Christian myth that the believers would be rewarded with the multiplication of bread and fish or, in other words, with limitless resources. But it has also brought with it an unexpected result (necessary for the current ecoreligious myth): the nearly complete exploration of the globe followed by serious ecological breakdowns in the former colonies has led many in the West to a conception of nature as a fragile and bounded entity which humans have the responsibility to safeguard.[7]

Those who embrace cosmic beliefs often feel that they demand a great personal effort, that they must act in an environmentally sound way, as an essential part of their personal ethics. Many of them often experience previously some sort of 'ecological conversion'. This implies a radical change in the way the natural world is valued by them, including their perception of its beauty. Once ecological conversion has occurred, the individual capacities to perceive and distinguish the processes affecting the environment improve. But above all, ecological conversion entails a discovery of the charismatic meaning of the 'interrelatedness' of all beings on Earth.[8] Most of the chief ecological thinkers have given an account of particular moments in their lives in which this ideological transformation took place. Aldo Leopold (1949: 129–30) expressed his conviction that in every living thing there existed a 'deeper meaning, known only to the mountain itself' when he looked into the eyes of a dying wolf that he and his colleagues had shot by mistake. In a similar vein, for Lewis Mumford the total collapse of the planet will only be avoided if an organic, all-embracing worldview of life, as depicted by Darwin, is adopted and understood by the majority of the world in an almost religious way. In his opinion, for 'its effective salvation mankind will need to undergo something like a spontaneous religious conversion: one that will replace the mechanical world picture with an organic world picture' (Mumford, 1964: 413). Ecological conversions also occur in people who call themselves agnostics or even atheists. It can be produced by an unconscious progressive awareness of changes in the natural world or, more frequently, by a sudden experience or image that remains for years at the back of one's mind. An emotional personal event not explained in rational terms can be enough to lead to the personal transformation produced by conversion.

The sense of grievance expressed by some important western bodies of opinion when seeing a species vanish or a part of the world becoming increasingly polluted or overcrowded constitutes a strong emotional force that can often be translated into wide popular support for environmental claims. However, most western urban dwellers can only experience the loss of some charismatic species and the destruction of some of the last remaining wild places of the planet through the media. Usually it is the distant images of bleeding whales and seal pups, wandering albatrosses

killed by trawl-lines or burning rain forests which trigger the first perception of the anthropic processes affecting the global environment and the subsequent anxiety facilitating conversion to cosmic piety. These origins of quasi-religious Earth beliefs and values can rarely be explained only in traditional rational terms as they remain in the territory of the charisma and myth where human emotions come close to religious attitudes or indeed become such, leading in some cases to concerted social action or inspiring political movements.[9]

Ecoconverts manifest their cosmic piety in a multitude of different secular private and public manners. Thus ecological asceticism is followed by people who declare themselves agnostics, atheists or radical rationalists. It can be practised at home, at work or at leisure, or when enjoying a meal, using private or public transport, or going out with friends. Although the social expressions of ecoreligion vary in different contexts and societies, it is in the wilderness where the myths which demand cosmic piety can best be experienced and where the individual can 'learn' more about the transcendent meaning of life and its natural forms. Essentially, it needs a recognition of charismatic properties in the natural world. The sociological definition of charisma points to this recognition in certain people, objects or symbols. But charisma can be extended to nations, tribes, natural sites or, as in the present case, to nature itself. The diffusion of charisma – in our case its attribution to something as large as nature – may create problems of analysis (and, indeed, also problems of worship!) but it does not obliterate it as an identifiable phenomenon (Shils, 1975; Giner, 1996).

Ecoreligion needs not only practices but also sacred, charismatic places which can represent the ideal state of nature in the midst of an evil, human-driven global environmental change that ought to be reversed. As symbols, such sacred places hold an enormous informative and educational value for both present and future generations. Nowhere better than in the wild can the practice of cosmic piety be put into effect. But most importantly, the new charisma of the wild holds a rational component at least to the extent that it may contribute to the common good. Thus, the piety it demands may help prevent some of the worst effects of global environmental change. Environmental historian William Cronon, who recognizes the wilderness as being his 'own religion', characteristically believes that

> . . . the language we use to talk about wilderness is often permeated with spiritual and religious values that reflect human ideals far more than the material world of physical nature. Wilderness fulfills the old romantic project of secularizing Judeo-Christian values so as to make a new cathedral not in some petty human building but in God's own creation, Nature itself. Many environmentalists who reject traditional notions of the Godhead and who

> regard themselves as agnostics or even atheists nonetheless express feelings tantamount to religious awe when in presence of wilderness. . . . The autonomy of nonhuman nature seems to me an indispensable corrective to human arrogance. . . . In reminding us of the world we did not make, wilderness can teach profound feelings of humility and respect as we confront our fellow beings and the earth itself. (Cronon, 1996: 16–23)

It might then be the case that people's communion with, and awe of, the myth demanding cosmic piety from its faithful entails an important rational component, necessary if we are to find alternative answers to prevent the worst outcomes of a human-driven global environmental crisis.

We now turn to the important sociological task of explaining in which sense a charismatically embedded rationality may be necessary for such a far-reaching change of direction.[10]

Ecological Rationality

We are examining some relevant implications of the concept of global ecological rationality. We argue that this new form of rationality will succeed societally only if a thorough reconstruction of local beliefs and pieties, not just manners, about nature, entailing ecological rationality, is achieved on a large scale. Global ecological rationality, if it ever manages to take root as a generalized popular attitude, will emerge from the radical transformation of particular cultural (and religious) contexts of action in which many of the current contradictions between means and goals, the local and the global, and the opposition between human and the natural world occur.[11] It is our contention that this new rationality will not be achieved only by entirely secular means: to be successful it needs to be embodied into widespread expressions of cosmic piety. Let us now look at the reasons why this is so.

Concern about global environmental problems differs between social contexts and groups, and so does its meaning.[12] A plurality of meanings about environmental issues and the understanding of the personal relationships that people maintain with their global environment also results in a multiplicity of local rationalities. For some, trying to save either the planet or even our backyard, within our modern unsustainable societies is just an impossible aspiration. For others, on the contrary, to behave environmentally soundly is the only rational and realistic option (Mitchell, 1979). Likewise, to believe in global environmental change might lead people into thinking that sometimes it is worthwhile to invest time, money and effort into personal actions to mitigate environmental destruction, in spite of other people's indifference, or the opinion that global environmentalism is a threat to world order. Expressions about environmental issues have been intrinsically ambivalent from their very

beginning and have always evolved amid opposing views or dualities of opinion, often in mutual conflict (Lowenthal, 1990).

The practice of a form of rationality coherent with global environmental goals depends on specific social and historical contexts which are often at odds with the social situation in which they emerge. To a certain degree ecological rationality is a result of the cultural consequences of the massive contemporary urbanization and industrialization: they have created, in turn, the optimal conditions that undermine the basis of their success and have thus stimulated the rediscovery of nature and the awareness about global change. In addition, the worldwide spread of western institutions, economy and culture and the increasing application of interdisciplinary science and ethics into international relations have laid bare an increasing number of socioenvironmental contradictions and stimulated new ways of looking at them.

Global environmental change poses a considerable number of questions both about the rationality of dominant societal goals and about the rationality of the means to achieve them. With a standard Weberian argument, it can be shown that the rationalization of the world and the application of the scientific approach to many spheres of social action has also led to new forms of irrationality: these have been particularly acute in respect of the human relationships within the natural world. The pursuit of a complete mastery of nature through the sole means of formal rationality is in itself an irrational aspiration. Raymond Murphy believes that the 'loss of awareness of human ignorance and of the recognition that humans must adapt to nature has been a particularly irrational cultural consequence of rationalization' (Murphy, 1994: 39).

Ecology, in relation to goals, modifies the idea of rationality, at least in the sense that social rational actions should not go against human *adaptation* to our life-support systems.[13] In this sense, it is often argued that, in the last resort, reasons for behaving wholly rationally cannot be anything but ecological. The problem, however, is how to define in non-ambiguous terms what 'ecological' really means. Many different, evolving and conflicting rationalities are at stake when dealing with global environmental problems. Great difficulties arise when trying to identify what gives social action a rational ecological character. According to a well-known opinion, ecological goals can be set either in 'deep' or 'shallow' terms. Although it is possible to aim for a less anthropocentric ecological rationality than is usually the case with humans (i.e. a 'deeper' one), an entirely non-anthropocentric rationality can also be interpreted as another form of irrationality. This easily shows the intimate but always delicate relationships which obtain between rationality and ethics, for many actions can be simply labelled 'rational' or 'irrational' depending on the moral values of the observer.

To a great extent, however, ecological rationality expresses morals, morals that incorporate ecological values. Global biodiversity policies, for instance, can follow dramatic alternative courses of action depending on which moral goals are pursued. They depend on whether their aim is to protect non-human beings for their intrinsic or extrinsic value, or whether the reason to grant moral standing to natural objects is their capacity to feel, flourish or simply belong to an interdependent biotic community. The ideal of sustainability can be seen as an attempt to overcome these value-laden appreciations and to bring together diverse economic, social and ecological rationalities. However, the concept of sustainability itself, which is often presented as the most rational goal against which social, economic and political institutions should evaluate their rationality, is not exempt from sharp contradictions or ambiguities (Barbier, 1987; Redclift, 1987; IUCN/UNEP/WWF, 1991; WCED, 1987). Many of the elements that define the notion of sustainability – future needs, the carrying capacity of ecosystems, energy-information relationships and such like – are essentially unknown. Accordingly, in order to decide whether a particular strategy of social action is sustainable or not, a non-rational element has to be incorporated.[14] In fact, as Caldwell points out, human societies as they are today can be sustained for the short term only at the cost of further great environmental degradation. Therefore, only either political or ethical decisions, or both, about which level of environmental quality we want to achieve, and by what means of social control, can ever overcome the contradictions generated by this puzzling situation (Caldwell, 1990).

The quest for an ecological rationality also casts serious doubts on the logic of the means to achieve current social goals. The processes that mould situational perceptions and determine the selection of individual and collective choices that affect present and future global ecosystems are shaped by the structure of economic, political and cultural institutions whose form and direction have nothing to do with the issues we now confront. For example, the current monetary accounting system may be seen as the most irrational means of valuing our increasingly scarce natural resources; the four-year election procedure so favoured by several modern democracies can be viewed as an entirely inappropriate political arrangement for the necessary enforcement of long-term sustainable ecopolicies; for its part, the urban, commercial and technological culture of modern societies – including the all-pervasive use of the private automobile – can be thought to have deeply damaging repercussions for the natural world, not to speak of the social fabric in many countries. Therefore, again, the irrationality of all these institutions must be gauged in relation to their inadequacy to ecological goals, many of which, in turn, possess an essentially ethical or non-rational content.

Increasing specialization, widespread bureaucratization and the rise of

the information society have meant that modern rationalities are moulded within a more limited, specialized and often reductionist context of action. In modern technological societies, the gap between the globalization of information and the localization of action has grown to such an extent that making rational sense of the relationship between global problems and local actions becomes for a great part of the lay public more a task of faith and hope than one of finding objective sources of knowledge. The logic of personal decisions is limited by the availability of complex information about different possible global futures. Many people have finally become acutely aware of global environmental perils: many now know about the dangers to the ozone layer or about pernicious climate changes. But most feel impotent or incapable of dispensing with those facilities (their own private automobile, for instance) that damage or undermine the natural fabric. Under such conditions, mythical or charismatic sources of knowledge and discipline may come into their own. In fact, they already inspire much environmentally friendly social behaviour. Once more, rational beliefs and rational conduct may be embodied in charisma and even myths. Neither are always irrational in every sense. Cosmic piety may be, and often is, an essentially rational response (especially in sociostructural terms) to the needs of humankind vis-a-vis a fragile environment, which we need to preserve if we wish to preserve the human race.

We are not saying that cosmic piety is the only way to spread environmentally rational beliefs and behaviour among the populace. Rather that it is an extremly powerful means of doing so among people less prone to certain forms of secular, analytical and rational thought. Besides, spread of a cosmic piety embodied in a variety of religious or semi-religious cults, or in political ideologies, together with the spread of mores and folkways leading to good ecological manners – recycling of products, energy-saving habits and so forth – has thus shed light upon some global environmental processes. It has instigated a reformulation of current rationalities and has helped make people believe that some previously accepted goals and means were not as good for the good life as they thought. In this context, Barlett has pointed out that 'ecological reasoning has its roots in an ecological metaphysics, a world view with its own distinctive ethic, assumptions, and metaphors that direct the interpretation of reality and the application of logic to choices' (Barlett, 1986: 230). Myths may provide knowledge about different courses of action, and the truth of such knowledge may often be objectively confirmed by more independent, scientifically informed observers. Since ecomyths make sense of social and environmental relationships, they also constitute a primary source of social environmental change.[15]

Specialized contexts of action find it difficult to integrate outside knowledge of change unless it is presented with their own language of motives

(Wright Mills, 1940). Cosmic piety provides the universal language that can be integrated in diverse institutions and situations. For this reason it can be considered to have an invaluable cultural role in the common pursuit to adapt human societies to global environmental change.[16]

Evidently, other structural conditions besides culture need to change: the right legislation and education are obvious elements of such conditions. Adequate changes in values and beliefs might have considerable impact on the willingness to act in an environmentally sound way but these are limited by other social, political and economic forces (Gardner and Stern, 1995). In the present article, however, we have only dealt with some elements that can increase awareness and stimulate sound environmental practices at the local level in relation to global environmental change. We have argued that the ecological character of rationality is highly determined by its ethical values; that there are as many rationalities that deal with global environmental change as different situations in which individuals carry out their actions; and that the sources of this new global rationality, that many think necessary in order to adapt to the new situation, must be found in a set of beliefs and attitudes which emerged in densely corporatist and specialized societies in the form of a planetary myth leading to a form of natural awe and ritualism we have called 'cosmic piety'. Some of these practices, we insist, are not rational by any means but neither are they necessarily irrational. Their rationality is clearly manifested if we consider that their ultimate goals and consequences are cogent with the goal of a continuation of the flourishing of human life in the framework of a better society.

Paradoxically, however, if we do accept that cosmic piety has had, and still has, an outstanding cultural role to play in the ongoing difficult process of human adaptation to global environmental change, we should also be aware of the problematic, even dim future that awaits it in the long run.

A Conclusion: The Tragedy of Ecoreligion

The more substantial aspects of cosmic piety will eventually die. A bright future still awaits it but, like many religions, its mythical contents will eventually vanish, while its more behavioural aspects may still remain with us or, rather, with future generations. The ecological ethic will thus survive the spirit of the corresponding religious beliefs that inspired it in many quarters. The paradox of ecoreligion – its tragedy, to echo an expression Simmel used for modern culture – may be that, born as it was as a response to the rise of science and the intensive use of technology, it will also perish by the continued spread of scientific knowledge. We do not subscribe to the simple view that, as science grows, so shrinks religion: we have shown that the opposite may be the case. The mutual

relationship between science and religion is certainly intricate. In the case of the environment, and particularly in that of global change, both have claims to make upon it, albeit of a very different kind. To make matters even more complex, science and religion have been indirectly connected to each other through their respective concern for the cosmos and their particular stances before it. As we saw, and putting it simply, science contributed to the rise of ecoreligion. Yet, science itself will eventually undermine it. Its relentless logic, at least in this area, is to explain by rational means and empirical evidence phenomena that the religious mind infuses with mystery and charisma. We have tried to show, however, that religious awe before the universe and before our own place in it, particularly in a situation of global environmental change, cannot always be dismissed as outright irrational.

Obviously, scientific disenchantment with ecoreligion will only happen to the extent that further secularization affects other forms of religious life. And we know that secularization does not increase in a linear and unbroken manner. As a social practice of a myth, cosmic piety constitutes a charismatic expression of the rediscovery of nature, of the unknown effects of current global environmental problems, and of human responses to them. Nevertheless, once more, the rites and cults relating to ecoreligion are not completely irrational social constructions. They have contributed and are still contributing in an important way to international public environmental awareness and even policies. Perhaps in a more striking way than any other field of social action, global environmental problems show that communication and learning processes for attitudinal change are not only about rational or goal-oriented secular discussions, but also about ritual practices related to untestable beliefs, feelings and hopes. Cosmic piety, because of its cognitive, educational and ideal character, which also presents alternative courses of action, has already demonstrated some positive effects in conservation policies. There is no reason to assume that it will not continue doing so in the near future. It may still be helping human societies in their quest to adapt their political, economic and cultural institutions to the needs of global environmental change.

Ecoreligion has provided a decisive metaphysical and ethical component in the transformation of some political and private routines in industrial societies. However, it also faces the challenge of further rationalization and disenchantment, as once described by Weber. Thus, it is often claimed that in order to address adequately the challenge of global environmental change, we must overcome or ignore the kind of nonrational behaviour that ecoreligion converts tend to preach; that environmental problems should be defined in rational terms in which concrete causes, effects and solutions are correctly identified and efficiently tackled. But this, in the time being, if at all feasible, will only be possible for a

restricted number of environmental problems. And only a relatively small number of people will be able to act in that manner in each society.

Perhaps one day global ecological rationality, ethics and metaphysics will be fully and finally incorporated into the everyday culture, manners and lifestyles of large sectors of the world population. Should that come to pass, the culture of ecoasceticism will begin to forget its ecoreligious roots. In the mean time, it is likely that cosmic piety or some equivalent practices will still be needed in order to contribute to the urgent task of changing current social conditions in the direction of ecological adaptation.

Meanwhile, welcoming ecoreligious expressions of cosmic piety might prove sensible, given the current cognitive constraints encountered in the task of explaining, understanding and confronting the issues generated by global environmental change.

Notes

We would like to thank Professor José Prades and Professor Riley E. Dunlap for their comments.

1. Current theories about risk perception have not usually understood global environmental change as an objective or real process affecting contemporary societies. Moreover, some of these theories have regarded environmental actions as having an irrational content, which may be partly true. Yet, the approach leaves out the exploration of rational action as based on risk perception or social alarm. Likewise, global environmental change has been considered to have a secondary role in their conclusions, tending to adopt a strong social-constructionist stance.
2. We do not wish to explore here the historical role supposedly played by certain religions in bringing about the current environmental predicament – a line of analysis followed by Lynn White (1967) – or the ongoing debate about the religious causes, if any, of the crisis. For a previous similar thesis to that of Lynn White's see Thomas (1983) and for a summary account of such debate, see Watson and Sharpe (1993). From a religious point of view, see Hervieu-Léger (1993) and Collins (1995). We do not intend either to carry out a survey of empirical sociological research related to religion and environmental issues. For this see Cardano (1995), Kearns (1996), Guth et al. (1995), Nelsen (1995) and Ester and Seuren (1992).
3. In the Health of the Planet survey on the perception of environmental problems in 24 nations, Dunlap (1993) stated that 'at the time of the 1972 Stockholm conference environmental problems were often viewed as mainly aesthetic issues or threats to the beauty of nature' but now there is a growing awareness that they constitute threats to human health. In Dunlap's (1994) view, this survey demonstrated a virtually worldwide awareness and consensus about the existence of environmental problems and the poor health of the planet; for a review of western cultural change towards ecological worldviews, attitudes and values, see Olsen et al. (1992) and Tábara (1996).

4. The persistence of more traditional forms of millenarianism – as in the case of the Jehovah's Witnesses – alongside the new 'end of the world' doctrines put forward by the more apocalyptic intepretations of the ecological crisis shows that the latter do not displace them entirely. Combinations of the two are a distinct possibility.
5. Some defenders of ecoreligion, ecophilosophy or 'ecosophy' claim that their position has meant the end of humanism, since it entails a vision of humankind's centrality in its own preoccupations. The issue, however, remains open. Their emphasis on humans' behaviour towards, and wisdom ('ecosophy') about, their environment is too great for the outright dismissal of the possibility of an 'ecohumanism' or a humanism coherent with our times as well as with the imperatives of the new natural consciousness. Humanism, it seems to us, has been discarded too lightly by some ecologist critics: the possibility that the very humanist tradition now questioned might have had much to do with the rise of environmentalism and the ecological movement has not been seriously contemplated. As often happens, polemics has taken its toll from truth. It remains to be proven that humanism (a tradition with many ramifications and with ill-defined frontiers) is one of the chief culprits of the aggression against the environment produced by industrial civilization. On the other hand, Sessions' unambiguous 'charge' that the conceptions of theorists such as Teilhard de Chardin or Buckminster Fuller are highly anthropocentric is obviously well founded. He is on more shaky ground when he extends this to the New Age itself, considering that its notion of human 'stewardship' 'sees humans as acting as copilots of Spaceship Earth' (Sessions, 1987: 119–20).
6. For a critique of this view, see Giner (1976).
7. One of the central contemporary debates within the field of environmental sociology can also be understood in terms of the intellectual tensions (which also arise within the public in general) between *environmental believers, environmental agnostics and environmental atheists*. To the sociologist interested in global environmental change, the main questions concern whether environmental problems exist in reality or whether anything can be understood about their objective nature and consequences to human societies. In this sense, Dunlap and Catton (1994) have argued that for sociologists to make substantial contributions to the understanding of global environmental change, we should abandon the set of anthropocentric and exemptionalist assumptions that have characterized the discipline and its cultural background from its origins and move towards a new and completely revised 'ecological sociology'. Their proposal could also be interpreted as an attempt *to deepen* (though in a secular way) the shallow character environmental sociology has shown until the very present (see also Jones, 1990).
8. Christian theologist Dr P. Collins thinks that this 'deep spiritual change . . . is always a very difficult and painful process' (Collins, 1995: 173) and that it is a condition for human salvation. In his view, 'A real cosmological "conversion" has to occur. This will involve a deep interior change and the consequent making of a personal commitment. The result of this will be a strong sense of biological and existential identification with other living things and ultimately with the land and the earth itself' (Collins, 1995: 174). He reckons that the

environmental movement is already gathering a circle of 'saints' and 'martyrs' comparable to those of the great religions. In his opinion, some environmental leaders like Chico Mendes in the Brazilian Amazon demand a commitment, ascetic life and personal sacrifice that 'suggest a sanctity that is remarkable' (Collins, 1995: 9).

9. On the political consequences of conversion, see Pizzorno (1993: 9–28).
10. See Giner (1996) for an exploration of the rational components of charisma.
11. René Dubos echoed this in 1972 during the United Nations Conference on the Human Environment with his famous phrase 'think globally, act locally'. However, many immediate difficulties arose when trying to apply this key idea to the world environment: today, many societies, even if they can ever afford to think globally, definitely act locally, though not always necessarily 'ecologically'; see Burningham and O'Brien (1994).
12. In Douglas and Wildavsky's (1982) opinion, individuals cannot be aware of all the risks that surround them nor can they be worried to the same degree about all of them. In their widely discussed interpretation, each society and each group within each society chooses what risk they 'want' to perceive in order to support or give coherence to their social relations, lifestyles or values. Among the three different cultures that they identified, environmental problems are more feared by the egalitarian culture which states that nature is fragile and bounded because this allows them to propose values such as solidarity or the need to share natural resources in an equal way. Environmentalists hold 'pollution beliefs' which are associated with the ideas of purity, guilt, victims and how to heal the impure. Despite the voluntary character of those organizations, they viewed American environmentalism as an expression of sectarianism; see also Dake (1992).
13. However, for the most sceptical, individual asceticism will not substantially change the structural causes of environmental degradation just because the roots of the problem are to be found in a treadmill of corporations which seldom can be changed through personal actions (Schnaiberg, 1993). From this point of view, the ritual of recycling can be seen more as one of many individual communion activities that relieves one's soul from cornucopian and non-sustainable sins, but does not effectively transform social structures and adapt them to the requirements of global environmental change (and in this sense, less rational in relation to goals than to values).
14. Even for some 'green' thinkers, the process of rationalization of the world is the root of the environmental crisis and, in this sense, the current concept of sustainable development does not constitute any solution to it but more of the same problem (Smith, 1996).
15. It is often believed that the cults and rites entailed in cosmic practices will produce positive effects in the process of global environmental learning. In this sense, David W. Orr (1992) incorporates in his 'Syllabus for Ecological Literacy', a good number of subjects on religion and ethics and in particular some headings on the 'Epistemology of Wholeness' and on the 'Rediscovery of the Sacred'.
16. However, contradictory opinions abound in relation to the virtues and risks of ecoreligion and ecomyths. Development economist and ecological atheist

D. Lal sees in the 'ecofundamentalism of the West' a threat to world order more likely to hit the economies of the 'Rest'. In his view, western ecomorality which values nature above humankind is a pathological response to the death of God that resulted from the western 'rationalist Cartesian project' whose ethics are no longer based in the revelations of the Holy Book (Lal, 1995).

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