

# **ENVIRONMENTAL PHILOSOPHY AND ITS ONTO-ETHICAL PROBLEMS: ANCIENT, MEDIEVAL AND CONTEMPORARY WORLD-VIEWS**

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## **Summary**

The chapter traces the evolution of environmental philosophy from Pre-Socratic Greek Thought to the present. Its focus is on the underlying conceptual structures of the different worldviews through which human beings understand nature, their actual relationship to it, and what it is permissible for them to do in/to nature given their understanding of it and their relationship to it. The contradictions which each successive environmental worldview suffers serve as the through-line of analysis, enabling the reader to see the ways in which the problems of preceding worldviews form the basis for successor worldviews. All worldviews enable some range of possibilities and disable opposed ranges. The problem, progressively explored throughout the argument, concerns the distinct ways in which succeeding world views are inadequately anchored in the onto-ethical primacy of life-support systems.

## **1. Introduction**

Environmental philosophy is the attempt to outline the fundamental assumptions, basic principles and normative ideals that characterize and shape a society's conception of itself

in relation to its fellow life and the natural life-supporting environment. This includes the interpretation and evaluation of the kinds of practices and ways of life that may be licensed, cultivated or encouraged by that society's general conception of itself in relation to its environment. In its critical aspect, environmental philosophy attempts to highlight the pathogenic tension that arises when a society's assumptions, principles and ideals unwittingly engender life-destructive effects on its environment. One of the central tenets of the environmental philosophy outlined here is that humanity's relation to nature is shaped in varying degrees by the general conception of nature and human nature that is shared among its members. At the same time, it will argue that these conceptions of nature and human nature are not free floating abstractions, but are themselves generated by the practical relationships that humanity establishes with nature in each social epoch. Included in any general conception of nature is a shared sense of what nature is, what value or values it may have, what purpose or purposes it may possess, and the kinds of practical relations that human beings do in fact have, as well as those which they may be encouraged, or even obligated, to develop with their environment. General conceptions of nature, it is important to note at the outset, are not iron cages. While shared amongst a society's members, those same members, because they are themselves thinking agents within that society, may themselves detect the sort of life-threatening tensions that interest environmental philosophy. In response, they may express different kinds of beliefs that better serve the common basis underlying and shaping those differences.

The focus on a society's conception of nature does not privilege the ideal in abstraction over the complex of material, physical, biological and other non-conceptual causes (making it important that we examine, understand and evaluate these as well). Nevertheless, human beings are conscious beings whose active capacities include efficacious determinations by consciousness or mind. However much we may be determined by physical, biological or other material conditions, as conscious beings our actions are ultimately decided by what we think we can do, are encouraged to do, or may feel obligated to do. This includes our actions as they relate to the natural world, for they are shaped to some degree by the general conception of nature that is part and parcel of that relation.

The relationship between conscious valuation and the conditions of social practice is no doubt quite complex. As far as humanity's relation to nature is concerned, it is likely that mentality and practice either stand in some kind of mutual, two-way relation (with mentality conditioning practice and practice conditioning mentality to varying degrees), or they are interwoven so intimately as to make the distinction more theoretical than real. Whether one has priority over the other probably depends upon context, but it is highly unlikely that humanity's relation to nature is reducible to any purely asymmetrical, one-sided relation. Thus, to properly understand, assess and, if appropriate, reform the relation that exists between a people or society and its environment it is essential that our conception of nature and the relation between that conception and practice in general be systematically outlined, rendered explicit and made better understood.

This chapter will outline the general conception of nature and human nature that is currently dominant within the techno-scientific world view. It will trace some of the key historical developments that helped give rise to the current conception of nature and human nature, and make explicit certain key ingredients within that framework that are essential to understanding its character. It will end by suggesting alternative ways of thinking about

nature that, if developed and adopted, enable a richer, healthier, more ethically sensitive sense of place within the natural world. Rethinking our relation to nature is crucial at this point in history when both human and ecological life-systems are being threatened on multiple planes.

## **2. Vital Historical Background**

It is commonplace to think of our modern conception of nature as the progressive rejection and subsequent overturning of classical and medieval ideas in favor of a more enlightened, rational, scientific point of view. Typically, the modern view of nature is said to emerge from a great philosophical and scientific revolution initiated by Bacon (1561-1626, CE), Descartes (1596-1650 CE), Galileo, (1564-1642, CE), Newton (1643-1727, CE) and others. This revolution supposedly involved the dispelling and overcoming of traditional, dogmatic authority and superstition through the proper exercise of reason grounded in the empirically based methods of scientific discovery. For many this is when the true character of nature was first objectively revealed, discovered through the hard, factual, concrete exercise of reason adopting the methods of modern science. Reality, however, is more complex and subtle. Key elements, for example, in the development of the modern conception of nature and human nature actually have their origins deep within classical and medieval thought. To fully appreciate the importance of these trans-epochal developments for the health of global life support systems, however, we need to first contrast classical and medieval conceptions of nature as a means of identifying how key elements of classical and medieval thought became essential ingredients within the modern, techno-scientific enterprise.

## **3. Classical Views of Nature and Human Nature: A Hierarchy of Limits**

There is no single, universally shared conception of Nature that is characteristic of classical thought as a whole. In fact, there have been many competing views. We can nevertheless identify a number of general characteristics that are fundamental to most if not all classical conceptions of nature. These include (but are not necessarily exhausted by) the following presuppositions or general principles: 1) that the basic constituents of the universe are fixed, immutable, eternal, 2) that there are necessary, pre-determined limits on what is possible, and 3) that natural beings have their own pre-designated end or good that defines their proper place within the general scheme of things (as a function of their essence or 'nature'). As Hans Joan argues in "Technology and Responsibility," these three notions help to distinguish classical from medieval and modern world views. (pp.231-235)

The nature and importance of these notions or principles is perhaps most clearly seen in their place within the ancient world of myth. For despite attempts by early thinkers to set themselves apart from mythical modes of thought (as a more philosophical, more rational alternative), they still borrow from the general mode of orientation or deep perspective that is characteristic of the epoch viewed as a whole, as Blumenberg argues in *Work on Myth* (p. 26f). The first and second principles underlying classical conceptions of nature have their correlative in the mythical idea of the fates. The fates represent the idea that there are certain pre-established, fixed limits or boundaries governing all events and actions within the world, boundaries that no power, not even that of the gods, may violate or transgress. The basic idea is that all power, without exception, has its proper, pre-ordained place within the general scheme of things. Attempts to transgress or violate these circumscribed

limits will be met by the fates, whose own power is directed exclusively toward guarding and enforcing those limits. The fates own defensive powers serve to restore justice to the world by bringing things back into their proper balance and so relegating things to their proper place (themes that we see later revived in Renaissance figures such as Shakespeare). From a practical point of view, this ancient idea can be seen as an implicit acknowledgement of the presence of an ultimate order beyond human right to alter to which we must properly conform, thereby serving to limit humanity's radical intervention in nature and the world in general.

At the same time, the idea of the fates as supernatural regulatory powers expressed the real inability of human beings in the ancient world to intervene in decisive ways in natural processes. An irony is introduced here to which the argument will return below. On the one hand, the idea that the fates limited that which it was legitimate for human brings to change in nature was an implicit acknowledgement that nature is a life-support system that provided by its own abundance for human life-requirements. On the other hand, it was also an acknowledgement that humanity could do little to alter nature when the latter's forces (disease, drought, and so on) turned against the conditions required for human life. As social changes created new conditions for science, technology, and the forces of production to develop, humanity has become less directly hostage to the life-destructive implications of natural forces. However, as will become clear below, humanity has not governed these forces and powers in a life-grounded way. "Life-grounded" as first systematically elaborated by McMurtry in *Unequal Freedoms*, means the development and use of only those productive powers and forces which enhance the human ability to satisfy our natural and social life-requirements without exhausting, permanently damaging, or destroying the natural and social life-support systems (p. 23). Because current systems of thought and production are not life-grounded, human understanding has been determined in its development by life-blind economic and social forces which have become the major threat to life. By "life-blind" is meant any system of thought or practice that cannot recognize the foundational role that life-support systems (the life-ground of value) play in the maintenance even of its own recommended practices and policies.

Before this irony can be fully understood a more complete understanding of ancient environmental philosophy is necessary. Where principles one and two above are expressed in the role of the fates as limiting conditions, the third principle listed has its correlative in the mythical idea of fate or destiny, some pre-apportioned role or purpose that all beings either have to or ought to play out. As both MacIntyre, in *Whose Justice?* and Sambursky, in *The Physical World of the Greeks* explain, the basic idea is that all things have a pre-determined function or part within the general scheme of things, and the highest good for all things is to play out their assigned role in the pre-determined manner (p.14; p.159). To attempt to resist or bypass one's pre-apportioned purpose or goal is to risk a life of disaster, unhappiness and general ruin (with the end result that one ends up playing one's role anyway, but through a more severe, more circumnavigated route). Theoretically, this idea of destiny or fate is expressed as the best or proper end that is apportioned to individuals based on their given 'nature.' Thus, to use an example from Wright in *Cosmology in Antiquity*, the kind of life that is best suited to a living thing (whether it is a rose or a tree, a bird or a human) will depend upon the essence, kind, or nature of the thing in question (pp.56-74). To live contrary to one's given nature will be to live a life of trouble, hardship, tragedy and ruin.

#### 4. Divine Rationality and Man in Medieval Thought: The Re-Maker Turn

In many ways, medieval conceptions of nature and human nature share many characteristics in common with the classical world. In fact, most medieval scholars accepted some variation on Plato's or Aristotle's general system of philosophy (and the conception of nature that went with them) as the basic groundwork for understanding the world. The crucial difference, of course, is the addition of the religious idea of the Monotheistic God as the personal, creative ground or cause of all being. Once nature and existence are defined as God's creation, the classical belief that existence is eternal in some primordial sense, that possibility is limited or bounded in some inviolable sense, and that human beings have a pre-apportioned and bounded place in the general scheme of things are all radically called into question.

To understand medieval conceptions of nature it is absolutely imperative that they be understood in dynamic tension with the newly emerged religious faith in the Monotheistic God and the social power of the Church hierarchy. Essential to this newly emerging world view is the belief that God's power, wisdom, goodness, etc. are infinite or absolute but expressed with definite intentions regarding the organization of social life. As infinite or absolute, God stands as the final authority upon which all other conditions rest, including nature and the hierarchical structure of society themselves. On the one hand this means that the world or the primordial 'stuff' of which it is comprised and ordered (such as in Plato's (427-347, BCE) "Timaeus") can no longer be held to be eternal as many classical thinkers assumed or claimed, for it must now be redefined as God's creation. This has a number of important implications. Firstly, it means that the world was created *ex nihilo* or out of nothing. For medieval thinkers, the world had to be created out of nothing because if it was created out of something (that God did not create), then this would undermine the idea of God's infinity and absolute authority. If God is to be truly infinite and God's authority absolute, then there can be nothing, absolutely nothing that does not owe its existence to God. Thus one of the fundamental claims or presuppositions of medieval conceptions of nature is that nothing can exist independent of God. As Gilson in *The Spirit of Mediaeval Philosophy* explains, this means that everything that is, was, or will be (from the ordering principle of nature to the very 'stuff' or *being* of nature itself) stands in some kind of dependent relation to God, absolutely and unconditionally. (pp.70, 90) It also meant that the structures of authority as one finds them in social life are also the products of God's will and authority. As embodiments of divine reason, human beings thus find themselves in a contradictory situation. As will become clear, medieval philosophies of nature give voice to this tension. From one perspective, the nominalist, human reason is liberated from the older idea of a fixed nature ruled by the fates in so far as the nominalists maintained that universal ideas were essentially names that human reason imposed on the world. From the contrary perspective, however, human reason finds itself trapped and limited within structures of power which are assumed legitimate because intended by God. It is this fundamental tension that modern thought tries to resolve.

The idea that both nature and social hierarchy is dependent on God as creator is very different from the idea of emanation espoused within classical thought. Theories of emanation typically claim that everything stands in some kind of asymmetrical relation to an originating ground or source. This originating 'principle' may be the source or ground of the order, the intelligibility, or even the existence of the world as a whole (and all the things

in it), which are said to emanate from that source. What makes the idea of God as creator importantly different from the classical idea of emanation is that God is usually thought to be much more than a mere principle or ontological ground. Unlike a mere principle, which may be thought to function automatically, almost mechanically or algorithmically, God is said to be personal in some important sense that is often characterized as a kind of concern, care or love that is directed towards the world and its creatures. As Gilson again explains, the medievals' regarded God's power as something more than a mere efficient or final cause (with final cause functioning as a target or a lure towards which change is directed or drawn as its proper end or goal), but is better expressed as the idea of an intentional, unconditioned will. (p.71) Since God is infinite and has absolute authority, then God's will is held to be unbounded and so radically autonomous or free. In its most radical expression, to say that the world was created by God, means that the world was freely willed by God as an act of love. It is this idea that the world depends upon the free, creative will of God that most clearly distinguishes the Monotheistic idea of creation from the classical idea of emanation, for where emanation proceeds automatically and necessarily, creation proceeds willfully, freely and lovingly. Under this new ontotheological scheme, the classical idea of justice as an eternal and necessary metaphysical principle is undermined by the absolute authority of God's will. Hall, in *The Revolution in Science* argues that as a result, the order of nature can no longer be grounded in metaphysical principles that are fixed, permanent, and eternal. Instead, as God's creation, the order of nature becomes an *act of legislation*, a created order governed by *natural laws* legislated by God. (p.180)

There is a continuous tension in medieval thought between the classical emphasis upon the primacy of order (and reason) and the monotheistic idea of God as creator. Attempts to preserve the metaphysical spirit of classical thought, but with a monotheistic spin, are typically expressed in the idea of God as the God of reason. This idea is persistently challenged, however, on the grounds that it places a limit upon God's power, namely, the limit of reason. In time, a more voluntarist conception of God, as the God of Will, emerges as a dominant idea that finds its most powerful expression in the nominalism of William of Ockham (1288-1348, CE). According to Funkenstein in *Theology and the Scientific Imagination*, Ockham's denial of the reality of universals in favor of a pluralistic ontology of radically unique singulars is a direct expression of the voluntarist conception of God from which he departs. (pp.129-145) The rise of this voluntarist conception of God gave rise to a number of key questions within the Medieval period. Central among these were questions about the nature and freedom of the will (both in humans and in God) and related questions concerning the necessity or contingency of Nature in general. For if God's will is indeed absolute as Ockham and others suggest (having primacy even over the demands of reason), then the classical belief in the necessity and eternity of the world and its constituents (including the role and place of human beings within the general scale of beings) is suddenly called into question. For under this voluntarist conception of God, not only does all of creation stand in a relation of dependency to God (as its author) but this relation itself has to be reinterpreted as a relation of *radical contingency*, that is, a relation of dependence, not to God's reason, but to the infinite freedom of God's will. With the rise of this voluntarist conception of God, the primacy of God's infinite freedom demands that the necessitarian, rationalist presuppositions inherited from the classical world regarding the general of order things (including the natural epistemic accord between mind and world) no longer hold. As a result, 1) the classical sense of trust in the world as an eternal, fixed order becomes deeply undermined, 2) the classical belief that there are fixed

metaphysical limits on what is possible vis-a-vis the natural world or general environment is called into question (giving rise to the new metaphysics of 'possible worlds' that we develops from Aquinas (1227-1274, CE) through to Bruno (1548-1600, CE), and Leibniz, (1646-1716, CE) as Funkenstein again points out), (pp.140-150), 3) there is an increased emphasis on the idea of humanity's free, creative will (as made in God's image) as the primary means of human redemption and salvation, 4) humanity's place in the world is reinterpreted as in an eschatologically privileged way that assigns primacy to human ends and purposes, and 5) a tension arises between humanity's newly established sense of place and power and the traditional idea of a naturally fixed hierarchy of social/political life that eventually gives rise to the revolutionary developments that characterize so much of modern political life. The socio-political opposition between a new conception of radically free humanity trapped within a fixed and inegalitarian social order was resolved (at least temporarily) by unhinging the idea of human purposes from the larger world of objective values and purposes (to which human action must conform on pain of undermining its life conditions). This unhinging, according to Blumenburg in *The Contingency of the Modern Age*, fully opened the door for a radically new, creative self-conception in which humanity sees itself, not as part of a fixed order to which it must conform, but as possessing the means of creatively transcending any given set of limits with the aim at advancing a narrowly conceived idea of human-centered progress. (pp. 214-221) The stage for this newly emerging modern self-conception was set by the nominalistic turn that characterizes so much of late medieval thought.

## **5. Nominalism and the Transition to a Modern Conception of Nature**

The rise of nominalism during the late scholastic period marks a crucial period in the transition from classical and medieval into modern forms of life. Of particular importance is the nominalist denial of the reality of universals (as a framework of shared essences) in favor of a purely pluralist ontology of unique singulars. Under Ockham's scheme, individuals are no longer conceived as instantiations or imitations of some metaphysically pre-existing form or essence (i.e., universal), but are conceived instead as radically singular realities or 'singular substances' (i.e., that whose ontological domain extends only to itself and never to many), each of which stands in a radically unique relation of dependence to God's will (pp. 18-37) Under this scheme, universals exist, not as shared elements or substances in any ontological sense, but as nominalist abstractions (or constructions) of mind. This nominalist ontology helped lay the groundwork for two key elements of the modern conception of nature: 1) the cosmological idea that nature or the world as a whole is nothing more than an aggregate of radically discrete entities standing in external, naturally efficient relations, and 2) the concurrently developing political idea that human beings are autonomous, rationally self-interested individuals standing in external, contractually determined, and socially efficient relations. As noted by Wallance and reported by Blumenburg, the key ideas developed within scholastic nominalism thus helped set the stage for the newly emerging 'Copernican' world view because they weakened the link between divine reality and the scientific exercise of human rationality. (p. xxi-xxviii) This helped to fuel the newly developing liberalist view of socio-political life (as exemplified in Hobbes (1588-1679, CE) and Locke (1632-1704, CE)), extending it an air of theological, philosophical and scientific plausibility essential to its eventual emergence as a dominant form of social, political and economic life.

Linking the seemingly abstruse metaphysical critique of the reality of universal essences and the fundamental re-ordering of the relationship between human beings and their natural world is the disconnection which nominalism ushered in between human thought and its ability to recognize any objective limitation on the way things ought to be understood or utilized. If the essence of a thing is just the idea that a human mind forms of it, then the nature of things is reduced to the way human beings construct that nature. Thus, nominalism opens the door to (but does not itself cause) forms of understanding and utilizing the natural world in ways which damage its life-supportive integrity. If ‘the nature of things’ is just an abstraction in the human mind, then it can appear that human interests are free to utilize this nature in anyway that can be conceived by a human. If human thought operates within a social field which is (as will be explained below) systematically life-blind because it is steered by values like money-creation as the sole good, it can undermine the life-supportive integrity of the natural life-support system without knowing that it is doing so. As will become clear below, this form of life-blind thought becomes dominant once the so-called “laws” of the capitalist market—laws which, not coincidentally, appear as divine commands ruling over human thought and practice— have secured their rule over the social life-support system. These so called laws thus become one of the key proximate causes of the life-crisis that besets the contemporary world.

From this perspective, as Blumenberg notes, the most important consequence of the shift from classical and medieval to a modern conception of nature was increasing doubt and gradual loss of trust in the presumed reliability of the relation between mind and nature. (pp.160-165) In the classical world, it was assumed that there was an inherent accord between mind and world, for each was taken to be the proportionate expression of the eternally fixed order that governed the universe as a whole. Plato, in *The Republic* for example, does not doubt that the rational part of the soul is capable of grasping the truth, but instead argues that, properly cultivated, the mind turns towards and necessarily knows the good as “the cause of all that is correct and beautiful in anything.” (p. 189). Since the proper place or function of mind included the pursuit of knowledge, then it could be assumed that the relation between mind and world was pre-apportioned or pre-established towards that end (as exemplified in the classical idea that nature does nothing in vain). This implies a life-grounded connection between human activity and world, since if mind is understood as the expression in humanity of divine intelligence, and divine intelligence understood essentially as a meaningful moral order in nature, then learning itself should be oriented around what is essential to life, and to the good life in particular (i.e., finding one’s proper place in the world). Of course, this purported moral order also included invidious hierarchies of man over woman and citizen over slave. Despite this real contradiction at the level of social and political organization, at a metaphysical level there does operate a life-grounded understanding of nature as more than simple mechanical interactions, as a world that was meaningful and valuable in-itself to which the mind had to respond.

Once mind and world are understood to be the radically contingent creations of a personal God, however, the classical belief in an ontologically pre-established harmony between mind and world is suddenly called into question. “Radically contingent” does not mean that nature is not law-governed, but rather that it is impossible to read back from the mechanical laws of nature to the divine purpose the creator-God had in mind when it brought the universe into being. Thus In his *Meditations* Descartes can at one and the same time call God the creator of the Universe and banish final causes from the object of science, thus



leaving it up to human beings to decide what purposes to pursue. (p. 53). The general result, as both Leff and Blumenberg emphasize, is a standpoint of radical uncertainty and doubt, for the presumed eternality of the world order has been replaced by a relation of dependence to a cause or ground whose infinite freedom is now rendered to be rationally inscrutable. (pp. 8, 132-135, 256-258; pp.152-162,181-190) Under these metaphysical conditions of uncertainty and doubt, it was as Blumenberg says, “left to man to resolutely turn his gaze to the scope of what was not pre-given in the factual world but could be realized by his own power.... Man discovered that he could be something other than an imitator of nature.” (p.532) Thus begins the modern turn away from the traditional metaphysics of completeness and towards a new, epochal emphasis on the promise of “human self-assertion,” a turn that is grounded upon humanity’s newly emerging creative self-conception and its theologically privileged place in an otherwise thoroughly contingent world. (Blumenberg 1983, p.138-139). Unfortunately, the turn towards “human self-assertion” as the origin of value in a natural universe now assumed to have been created by God for human purposes, found its earliest expression in the destructive and self-destructive form of a free market libertarianism that is aimed at the transformation and ‘perfection’ of a nature according to narrowly conceived understanding of human purposes as reducible to self-maximizing gain. This point will be further developed in the next section.

## **6. Nature and Human Nature in Early Modern Thought**

It is not exaggerating too much to say that the modern era is defined by the manner in which it responded to the general atmosphere of uncertainty and doubt that followed the late scholastic period. The spirit of human self-assertion that emerges, from, for example, Descartes’ re-grounding of philosophy, can be characterized broadly as a general attitude that aims to secure humanity’s place in nature by making nature conform to human ends. Where classical social life was aimed primarily at occupying the natural place assigned to humanity in the general scheme of things, the modern spirit of self-assertion is aimed at transforming or recreating nature in humanity’s image. The earliest form of this new spirit of self-assertion was the rise of Renaissance humanism as exemplified in the works of Petrarca (1304-1374, CE), Ficino (1433-1494, CE), and Zarabella (1534-1596, CE). This new spirit is aptly expressed epistemically in Vico’s (1668-1744, CE) claim, reported by Funkenstein, that “we know for certain only those things that we have constructed ourselves. (p.299) As we shall see, this creative approach to knowledge, as grounded in a certainty that we ourselves construct, is part of a general emphasis on making and re-making that helps define the modern era (and modern attitudes towards nature). Two key developments aid in better understanding this shift in modern attitudes towards nature and humanity’s place within it: 1) the development of the idea that humans are essentially creative, productive or constructive beings with a theologically and axiologically privileged place in nature, which licenses humans to do what they want with nature without regard to any inherent values or goodness it might possess and 2) the development of a new, mathematical conception of nature now reduced from an organic system of formally organized and teleologically elaborated life-order to a quantitative framework of lifeless, valueless material conditions related under lawfully efficient relations. The former idea helped give rise to a general attitude that viewed nature solely as an instrument of humanity’s desires and privileged purposes, while the latter provided humanity with a conception of nature as mechanism of efficient causes laying ready-to-hand for whatever

transformations human beings decided to pursue.

## 7. Humanity's Modern, Creative Self-Conception

The modern conception of nature did not emerge full blown as a single, clear, systematic statement, but developed gradually, as both Grant and Hall argue, through the melding and blending of different material, social and intellectual ingredients.(pp.171-203; pp.73-91). One of the more important of these ingredients was a new, culturally secure, theologically inspired vision of human nature whose essence included the God-like power of creative freedom, a power to re-make the world both politically and technologically according to humanly conceived ends. The idea that human creativity is unbounded by the limits of natural life-support systems was inherited from medieval times, emerging full blown as one of the defining beliefs and epistemic pre-conditions of the modern world view. Central to this belief are two key notions: 1) that human beings (as made in God's image) are fundamentally creative beings whose power to transform matter and bring humanly made, non-natural forms into the world is analogous to the creative power of God (and so is good without question), and 2) that human beings have also been granted a special, privileged place in the general scheme of things that encourages the exercise of their God-like, creative capacities. This dual, distinctly modern vision of human nature imbued the age with a powerful sense of God-given purpose and God-like freedom, and in so doing helped fuel the spirit of discovery, invention and hope that are so typical of the modern spirit of human self-assertion. As Koyre, in *from Closed World to the Infinite Universe* makes explicit, the sense of purpose and power associated with this new self-conception supplied modern thinkers such as Descartes, Galileo and others with sufficient intellectual latitude to entertain alternatives to the traditional, dominant conceptions of nature, allowing them to eventually reject and overthrow the Aristotelian scheme in favor of a new, modernized world composed solely of efficient, material relations. (p.2). This theologically inspired vision of creative human nature, modified and transformed in subtle ways, also lay much of the groundwork for the modern, money-value steered, techno-scientific world view. For the privileged sense of place and purpose associated with this period spawned the general belief that humanity has both the capacity and the license to transform nature into a place of its own making, an attitude that lies at the heart of the current money-steered techno-scientific world view and the life-destructive consequences that its unreflective, narrowly conceived operation has engendered.

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### **Biographical Sketch**

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