Anthropocentrism: A Modern Version

Belief in the value and creative potential of the human phenomenon is requisite to our survival.

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The capacity of man to affect the environment beyond himself is an evolutionary emergent, continuous with the much more limited ability of other organisms to affect the environment beyond themselves. It enables man to modify environments to suit his needs, which is a root cause of both his biological success and ecological problems. It also enables man to enhance values beyond himself, and this is a major feature of the new anthropocentrism expressed in this article.

Pre-Darwinian Anthropocentrism

Socrates, in a dialogue with Euthydemus (*1*), is reported to have said:

> Tell me, Euthydemus, has it ever occurred to you to reflect on the care the gods have taken to furnish man with what he needs? . . . Now, seeing that we need food, think how they make the earth to yield it, and provide to that end appropriate seasons which furnish in abundance the diverse things that minister not only to our wants but to our enjoyment.

The idea that nature was created to benefit man was a popular belief throughout Western history and was still very much alive in the 19th century. Cuvier, "father" of comparative anatomy and paleontology, "could think of no better reason for the existence of fishes . . . than that they provided food for man" (*2*), and Lyell, a leading geologist of the 19th century, in his early years, believed that domestic animals had been expressly designed for man's use. He writes (*3*):

> The power bestowed on the horse, the dog, the ox, the sheep, the cat, and many species of domestic fowls, of supporting almost every climate, was given expressly to enable them to follow man throughout all parts of the globe in order that we might obtain their services, and they our protection.

Darwinian Anthropocentrism

Charles Darwin, in *The Origin of Species*, provided sufficient evidence to finally inter the idea that nature exists to serve man. According to William Paley, 18th-century exponent of natural theology, the rattlesnake's rattle was expressly designed to give warning to its prey. Darwin (*4*, p. 196) asserts that "natural selection cannot possibly produce any modification in a species exclusively for the good of another species" and makes the following declaration:

> If it could be proved that any part of the structure of any one species had been formed for the exclusive good of another species it would annihilate my theory, for such could not have been produced through natural selection.

Species exist as ends in themselves. They do not exist for the exclusive benefit of any other species. The purpose of a species, in biological terms, is to survive to reproduce. Potter (*5*, p. 16) writes: "all successful living organisms behave purposefully in terms of their own or their species survival." Species that failed to do so became extinct.

A Modern View of Anthropocentrism

To be anthropocentric is to affirm that mankind is to be valued more highly than other things in nature—by man. By the same logic, spiders are to be valued more highly than other things in nature—by spiders. It is proper for men to be anthropocentric and for spiders to be arachnocentric. This goes for all other living species. The following statement by Simpson (*6*) expresses the modern version of anthropocentrism:

> Man is the highest animal. The fact that he alone is capable of making such judgment is in itself part of the evidence that this decision is correct. And even if he were the lowest animal, the anthropocentric point of view would still be manifestly the only proper one to adopt for consideration of his place in the scheme of things and when seeking a guide on which to base his actions and his evaluations of them.

Anthropocentrism is a pejorative in many of the articles which deal with the so-called "ecological crisis." Lynn White (*7*), in his widely quoted article, "The historical roots of our ecological crisis," upbraids Christianity for being the most anthropocentric religion the world has seen:

> Christianity, in absolute contrast to ancient paganism and Asia's religions (except perhaps Zoroastrianism), not only established a dualism of man and nature but also insisted that it is God's will that man exploit nature for his proper ends.

White is right to remind us of how tragically myopic has been our exploitation of nature. However, he is wrong to infer that it is somehow wrong for man to exploit nature for "his proper ends." We must exploit nature to live. The problem lies in our difficulty to distinguish between "proper ends," which are progressive and promote human values, and "improper ends," which are retrogressive and destructive of human values.

Another attitude toward nature that eschews anthropocentrism is the "Franciscan" belief in the fundamental equality of all life. In this view, man is merely one of several million different species comprising a "democracy of all God's creatures" (*7*). Jordan (*8*) states: "The time will come when civilized man will feel that the rights of all living creatures on earth are as sacred as his own." Julian Huxley (*9*) expresses a similar opinion: "In ethical terms, the golden rule applies to man's relations with nature as well as to relations between human beings."

If we affirm that all species have "equal rights," or, that the rights of man are not of greater value than the rights of other species, how should it affect our behavior toward nature? The golden rule, "As ye would that men should do to you, do ye to them likewise," is a moral axiom which requires reciprocity among ethicizing beings. How does such a principle apply to nonethicizing forms of life which can-

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not reciprocate? The callous, wanton destruction of life is surely not a proper end for man, but what about our destruction of pathogenic bacteria, in order that we might remain healthy, or our destruction of plant and animal life, in order that we might be nourished? To affirm that men, dogs, and cats have more rights than plants, insects, and bacteria is a belief that species do not have equal rights. If, however, we believe in the equality of all species, none should be genetically manipulated or killed for the exclusive benefit of another.

To ascribe value to things of nature as they benefit man is to regard them as instruments to man's survival or well-being. This is an anthropocentric point of view. As knowledge of our dependent relationships with nature grows, we place instrumental value on an ever greater variety of things. Phytoplankton of the oceans becomes valuable when we recognize the key role of these organisms in providing the earth's free oxygen. Continued growth of knowledge may lead to an awareness that no event in nature is without some effect on the whole of which we are a part and therefore we should value all items in nature. Basic to the kind of anthropocentrism expounded in this article is the recognition that an individual's well-being depends on the well-being of both its social group and ecological support system.

Birch contends that to evaluate things of nature in terms of instrumental value, regardless of how enlightened our evaluation might be, will not provide us with a "valid ethic of nature." He writes (*10*): "Conservation will rest on very uncertain foundations unless it comes to be based on a view that living creatures besides man have intrinsic worth. Unless they have, there seems no sound reason for conservation other than to suit the purposes of man, and these change from time to time and place to place." To have a "valid ethic of nature," according to Birch, we must affirm "the intrinsic value of every item in creation."

An anthropocentric attitude toward nature does not require that man be the source of all value, nor does it exclude a belief that things of nature have intrinsic value. According to Laszlo (*11*, p. 105): "There is nothing in all the realms of natural systems which would be value-free when looked at from the vantage point of the systems themselves." Whitehead (*12*, p. 93) writes: "The element of value, of being valuable, of having value, of being an end in itself, of being something which is for its own sake, must not be omitted in any account of an event as the most concrete actual something."

I may affirm that every species has intrinsic value, but I will behave as though I value my own survival and that of my species more highly than the survival of other animals or plants. I may assert that a lettuce plant has intrinsic value, yet I will eat it before it has reproduced itself because I value my own nutritional well-being above the survival of the lettuce plant. Birch (*10*) writes: "Man left only with his self-interest, however enlightened, will not provide sufficient motivation for ecological survival." Even this statement can be interpreted in terms of instrumental value, that is, man should acknowledge the intrinsic value of things; otherwise he will not have sufficient motivation for ecological survival, which I assume includes human survival individually and as a species.

Man's Place in Nature

Whitehead (*12*, p. 94) writes:

> That which endures is limited, obstructive, intolerant, infecting its environment with its own aspects. But it is not self-sufficient. The aspects of all things enter into its very nature. It is only itself as drawing together into its own limitation the larger whole in which it finds itself. Conversely it is only itself by lending its aspects to this same environment in which it finds itself.

Ecologists have a saying: "You cannot do just one thing." Many of our actions, motivated by a desire to improve the quality of human life, have, to our detriment, caused unexpected consequences because we failed to recognize the essential interrelatedness of all things. "Man's first realization that he was not identical with nature" was a crucial step in evolution, writes Bohm (*13*), "because it made possible a kind of autonomy in his thinking, which allowed him to go beyond the immediately given limits of nature, first in his imagination, and ultimately in his practical work." Realization that our freedom of choice is "bounded by the limits of compatibility with the dynamic structure of the whole" (*11*, p. 75) and must "remain within the limits of natural systems values" (*11*, p. 107) is yet another crucial step in evolution. "Not until man accepts his dependency on nature and puts himself in place as part of it," writes Iltis (*14*), "not until then does man put man first. This is the greatest paradox of human ecology."

A human being is both a hierarchical system (composed of subsystems such as organs, cells, and enzyme systems) and a component of supra-individual, hierarchical systems (populations, species, ecosystems, cultural systems). Man is therefore a set within a hierarchical system of sets. "In hierarchies a given set must be described not only for itself but in terms both of what is within it, and what it is within" (*15*). Because science up to now has been strongly reductionist, we know more about the systems that make up our bodies and our cells than we do about those that transcend our individual lives—the evolutionary, ecologic, and social "wholes" of which we are "parts."

In an evolutionary sense, the life that animates us has existed in an unbroken line of descent, in numerous forms adapted to myriad environments, since life first appeared on earth some 3 billion years ago. Before life, our ancestry extends back through billions of years of molecular change to the nuclei of former stars. Here the elements necessary for life were built up from hydrogen, the simplest and most abundant element in the universe. Beyond primordial hydrogen, our ancestral roots become lost in a profound mystery—the beginning of things, the origin of the universe of matter, energy, space, and time.

In an ecologic sense, our existence depends upon the proper functioning of the earth's present ecosystem. In the course of cosmic evolution the forces of matter and energy produced a planet fit to support life. In the course of biologic evolution, the activities of living things produced an environment fit to support human life. The day-to-day maintenance of our "life-support system" depends on the functional interaction of countless, interdependent biotic and physicochemical factors. The movement of ocean currents and the activity of soil microbes are as essential to our existence as the oxygen we breathe.

In a social sense, we are as much a product of our culture as of our genes. "We are not ourselves only," writes Wells (*16*), "We are also part of human experience and thought." We possess no greater innate intelligence, artistic skill, or emotional feeling than

did our prehistoric predecessors, who painted vivid images on cave walls over 30,000 years ago. We are different from Cro-Magnon man because we are heirs to a greater store of knowledge collected by the human species over thousands of years of cultural evolution. In large measure, our personalities are determined by a collective consciousness which we can contribute to and which is itself evolving.

Culture, Knowledge, and Power

Once the evolutionary process produced a species with culture, it was inevitable that knowledge of nature would accrue to such a species at an accelerating pace. Culture represents a unique way of acquiring, storing, and transmitting knowledge about the world. Knowledge acquired by one generation may be transmitted to succeeding generations by the agency of social learning. While each newborn person must acquire cultural knowledge anew, the amount of cultural knowledge available to the social group tends to grow in a cumulative fashion. "Cultures may die," writes Hawkins (*17*), "as cells may; but death is not built into them, as it is into multicellular animals. And through cultures learning becomes cumulative, evolutionary."

A species that can learn from the experiences of its predecessors can, potentially, build new knowledge upon an ever-expanding base. Cumulative knowledge provides man, the cultural species, with ever-increasing power to exploit nature and, as a result, he is a great biological success. The human species successfully occupies a greater variety of habitats, over a greater geographic range, with greater numbers, than any other species. Man is recognized as the latest dominant type in a succession of dominant types which emerged during the process of evolution, and represents the first time a species, and not a group of species, has achieved world dominance.

In acquiring his present position of dominance, the human species has radically reshaped the face of nature. "Whole landscapes are now occupied by man-dominated (and in part man-created) faunas and floras" (*18*). For the first time in earth's evolution, one species can genetically manipulate other species to their detriment, but to its own advantage. Darwin (*4*, p. 46) remarks:

> One of the most remarkable features in our domesticated races is that we see in them adaptation, not indeed to the animal's or plant's own good, but to man's use or fancy.

Maize (*Zea mays*) is a species which was molded into an artifact by our prehistoric ancestors. It is unable to survive in nature without man's intervention. Maize was the agricultural base of the great pre-Columbian civilizations of the New World. European colonists encountered it almost everywhere in America, but they found it only in cultivation. The "ear" or pistillate inflorescence of maize was modified by prehistoric man into a botanical monstrosity. There is "no natural way by which the grains can be detached from the cob, escape from the husks, and be dispersed." When the entire ear falls to the ground, "the germinating grains produce a compact cluster of seedlings, none of which has much chance to survive" (*19*).

Man's ability to exploit nature has been limited by the amount of energy available to the species. For most of human history, energy for man's activities came exclusively from the consumption of plants and animals. "The earliest culture systems developed techniques of hunting, fishing, trapping, collecting, gathering, etc. as means of exploiting the plant and animal resources of nature" (*20*, p. 371). The first quantum jump in the energy resources for culture building took place with the domestication of plants and animals. White asserts that a few thousand years after this event, "the great civilizations of antiquity . . . came quickly into being." The second quantum jump in the amount of energy available to man was the tapping of fossil fuel deposits of coal, oil, and natural gas. "The consequences of the fuel revolution," writes White (*20*, p. 373), "were in general much like those of the agricultural revolution: an increase in population, larger political units, bigger cities, an accumulation of wealth, a rapid development of the arts and sciences, in short, a rapid and extensive advance of culture as a whole."

Creation of the Cathedral of Chartres or the Declaration of Independence required the existence of civilizations based on artificial ecosystems. Natural ecosystems have intrinsic value, but the realization of value in human evolution, a proper end for man, has depended upon their replacement by artificial systems, which produce more energy.

Inevitable Crisis in Cultural Evolution

Aristotle (*21*) began his *Metaphysica* with the sentence: "All men by nature desire to know." Throughout history, in spite of prophetic warnings that "knowledge increaseth sorrow," the fund of knowledge available to the human species has continued to expand. Major milestones in this process of knowledge accumulation include the invention of writing and the emergence of modern science.

Scientific knowledge has given us power to do miraculous things as well as monstrous things. We can eliminate diseases, transplant organs, explore the moon, while at the same time we can poison the earth's life-support system or engage in chemical, biological, and nuclear warfare. Nineteenth-century scientists saw the growth and application of scientific knowledge "leading infallibly upward to an empyrean noon hour for mankind," writes Monod (*22*), "whereas what we see opening before us today is an abyss of darkness."

We live at a time in human history when the knowledge crisis has become acute. Our current knowledge enables us to "move mountains," but we are still ignorant about whether to do so would be in our best interest. Our collective knowledge of nature has outgrown our collective wisdom, which Potter (*5*, p. 1) defines as the "knowledge of how to use knowledge for man's survival and for improvement in the quality of life."

In our frustration we sometimes blame science and technology or a particular ideology for our problems, or we wish that evolution had taken a different direction. If, however, modern society were wiped out and we were to begin again with our paleolithic ancestors, cultural evolution would inevitably lead to a similar knowledge crisis even though its course and time of development would be different. The knowledge crisis is one that every cultural species on every inhabitable planet in the universe must surmount at a point in its evolution, or become extinct. George Wald once remarked in a lecture that it took the planet earth 4.5 billion years to discover that it was 4.5 billion years old and he added: "Having got to that point . . . have we got much longer?"

Man's Threat to His Own Survival

Whitehead (*12*, p. 109) writes:

> The key to the mechanism of evolution is the necessity for the evolution of a favorable environment, conjointly with the evolution of any specific type of enduring organisms of great permanence. Any physical object which by its influence deteriorates its environment, commits suicide.

Darwin states in *The Origin of Species* (*4*, p. 78): "Never forget that every single organic being may be said to be striving to the utmost to increase its numbers," and Bertrand Russell (*23*) writes: "Every living thing is a sort of imperialist, seeking to transform as much as possible of its environment into itself and its seed." Man's unprecedented power to exploit nature has been used in part to improve the quality of human life, but also in part to transform as much as possible of the environment into ever more human beings. The latter process in our time threatens to undermine the former. George Wald (*24*) supposes that "man is the first living species, animal or plant, on this planet that has ever been threatened by its own reproductive success."

The maximization of reproductive potential is, from the biological point of view, in the best interest of most species. This was true for man throughout most of his history. In a world with small human populations at the mercy of environmental vicissitudes, with vast areas of unoccupied space and great stores of untapped resources, the biblical injunction, "Be fruitful and multiply and subdue the earth," had adaptive value and was in the species' best interest, but in the modern world such an injunction is an anachronism.

Negative feedback from the environment has done more to convince us of the essential interrelatedness of things than the prophetic preachments of philosophers ever could do. Unlimited growth of human numbers and human activities within the earth's limited ecosystem is a root cause of our ecological problems. The planet earth, except for a continuous input of solar energy, is essentially a closed system. Its supply of space, air, water, and other natural resources is definitely limited. Widespread pollution, scarcity of resources, and overcrowding are telltale signs that man is becoming maladapted to his niche.

Sinnott (*25*) writes: "Organisms often fail to act in such a way as to favor their survival." The production of ever more human biomass at the expense of ever greater environmental degradation is anti-anthropocentric in that it is maladaptive for the species. Sinnott continues: "Natural selection . . . preserves individuals which tend to react in a favorable way, which have 'purposes' that are conducive to successful life and survival, which 'want' the right things." The same could be said for populations, species, and cultures.

In order to survive as individuals and as a species we must choose to do the things which will preserve our "life-support system." However, to be anthropocentric is not to seek merely for biological survival. Man is not only an evolving biological entity, but an evolving cultural one as well. Eisenberg (*26*) asks: "Is mere perpetuation of the species, without concern for the quality of life, a sufficient criterion for man, even if it has been so for nature?" Our greatest danger is not that the human species will become extinct, which is unlikely to occur in the foreseeable future, but that the cultural values that make us human will become extinct.

The "ecological crisis" is basically a crisis in human evolution. Modern man stands at a crossroads. Continued geometric growth in human numbers, consumption of resources, and pollution of environments will propel mankind down a road of diminished options. A short way down this road, a point will be reached where the only alternative to extinction will be the regimented ant-heap. This is a process of evolutionary retrogression in which higher, emergent values are destroyed in behalf of the fundamental value of biological survival.

It is anthropocentric to value the factors that make us uniquely human, to seek to preserve and enhance such factors and to counter antihuman forces which threaten to diminish or destroy them. Nature outside of man will not act to preserve human values; it is our responsibility alone.

Participation in Our Own Evolution

If all of man's actions were determined, he could not hope to constructively affect the course of human evolution by conscious intent, even if he were to conclude that its direction is inimical to personal freedom and human values. He could only hope to "fathom the direction of the process" in order to "make it less painful by accepting it rather than fighting it" (*20*, p. 355). In this view, since man cannot direct change toward human purposes, his only recourse is to endlessly adjust human purposes to accommodate purposeless change.

The dismal portrayal of man as a passive entity in an evolutionary drama totally dominated by the environment is only one side of the evolutionary process. Evolution is more than the molding of entities by their surroundings. It also involves the ability of entities to interact with, adapt to, and change environments in creative, intelligent, and novel ways.

Man, because of his power of projection, has greater potential for affecting his own evolution than any other species. He is the only species, as far as is known, with the capacity to project purposes (goal-ideas), which arise in his mind from hopes, fantasies, and dreams about the future, and then proceed to work toward their realization. Birch (*27*) writes: "Possibilities are unseen realities. So far as our human lives are concerned they are potent causes that guide and transform our lives." Thus, the image of the future that man adopts is not merely an illusion, but an element in the chain of causality.

Birth, death, and reproduction are common to all life, but man, because he is capable of reflection and of planning his own actions, does not blindly respond to nature like other organisms; he assimilates and transforms nature and invests it with a meaning and intelligible moral value (*28*, p. 40). "We cannot recapture the animal security of instinct," writes Teilhard de Chardin (*28*, p. 44). "Because, in becoming men, we have acquired the power of looking to the future and assessing the value of things. We cannot do nothing, since our very refusal to decide is a decision in itself."

Faith in the Potentialities of Mankind

Man is not the measure of all things. He is not the center of the universe, nor the source of all value, nor the culmination of terrestrial evolution. Nevertheless, he is "the present crest of the evolutionary wave" (*28*, p. 237), the entity in which the evolutionary trends of greater organizational complexity

and greater consciousness have their most advanced development. It is in human evolution that the higher values of truth, justice, love, and beauty have their greatest expression. Further progress toward the realization of higher states of these values, if it is to occur at all, must develop in and through man. He is the key not only to his own survival, but to the survival and furtherance of values of cosmic significance.

In order to influence evolution in wise and responsible ways, we must strive for an ever fuller understanding of our relationship to greater wholes—society, nature, and ultimately to the primary source of order and value in the world. Personal identification with greater wholes is essential to the discovery of our own wholeness. An entity is only itself, according to Whitehead, "as drawing together into its own limitation the larger whole in which it finds itself. Conversely it is only itself by lending its aspects to this same environment in which it finds itself" (*12*, p. 94).

Effective participation in our own evolution requires not only that we establish a harmonious relationship to larger wholes, but, in addition, that we affirm the human phenomenon to be a vitally significant process in its own right and our individual selves to be holistic centers "of spontaneity and self-creation contributing distinctively to the world" (*29*).

Teilhard de Chardin (*28*, p. 296) saw, as a possibility, "mankind falling suddenly out of love with its own destiny. This disenchantment would be conceivable, and indeed inevitable," he writes, "if as a result of growing reflection we came to believe that our end could only be collective death in an hermetically sealed world." Boulding (*30*) concurs: "An ideology which states that the world is essentially meaningless but that we ought to strive, suffer and fight for it is unlikely to be powerful because of the essential contradictions among its components. If an interpretation of history says the world is meaningless, then our value system is likely to be pure hedonism—'Eat, drink, and be merry, for tomorrow we die'—or else one of apathy or stoic resignation."

Unbridled self-indulgence on the part of one generation without regard to future ones is the modus operandi of biological evolution and may be regarded as rational behavior. Heilbroner (*31*) asks: "On what private, 'rational' considerations, after all, should we make sacrifices now to ease the lot of generations whom we will never live to see?" If man, with his extraordinary power to multiply, consume, and pollute, seeks only to maximize short-term gain, global disaster will result in the very near future. The only possible answer to the above question, according to Heilbroner, "lies in our capacity to form a collective bond of identity with future generations." To do so is to affirm that the human enterprise has value which transcends our individual lives.

An anthropocentric faith in mankind affirms that we are not isolated monads acting out absurd roles within a meaningless context, but that we are essential elements of a meaningful whole and that our individual acts are vitally significant to the self-actualization of the process of human evolution itself and to the enhancement of value in the world.

Summary

Anthropocentrism is proposed as a valid and necessary point of view for mankind to adopt for consideration of his place in nature. Our current ecological problems do not stem from an anthropocentric attitude per se, but from one too narrowly conceived. Anthropocentrism is consistent with a philosophy that affirms the essential interrelatedness of things and that values all items in nature since no event is without some effect on wholes of which we are parts. The ecological crisis is viewed as an inevitable crisis in human evolution. Through cultures knowledge becomes cumulative. A crisis occurs when our knowledge of nature, which determines our power to exploit nature, exceeds our knowledge of how to use knowledge for our own survival and for improvement in the quality of our lives. An anthropocentric belief in the value, meaningfulness, and creative potential of the human phenomenon is considered a necessary motivating factor to participatory evolution which, in turn, may be requisite to the future survival of the human species and its cultural values.

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