

What on Earth is Environment?

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Introduction

Philosophers divide their "love of wisdom" in various ways. Three common sectors are, (1) what we know as real and important (ontology), (2) the way we get that knowledge (epistemology), and (3) how in the light of knowledge we conduct ourselves (ethics). The three are connected like the points of a triangle; they reinforce one another so that cultural foolishness or wisdom shifts with the times, depending on what is known, how it is known, and what people feel committed to do about it.

Ever since the Renaissance, epistemology has been strongly influenced by science with its analytic and objective method of obtaining knowledge. Within the same time span, as theism faded, humanity moved to the centre of ontology's stage. The ethic that emerged in harmony with science and humanism is the prevalent one of individuality and self-aggrandizement.

If *Homo sapiens* is the central reality of the universe, then human rights are the sole focus of ethical concern. Further, science is the appropriate way of knowing, for what else so effectively promotes human interests and human power over everything else? But if things other than humans are of surpassing importance, as today's deteriorating world leads some to suspect, then the conventional mode of knowing and the conventional individualistic ethic are called into question. Reconceptualization of reality, of what is centrally important, can open avenues of escape from tradition's species-centred ethic and the mode of knowing that serves it.

What humanity's leading vision and direction will be is today's portentous question. The history of where humankind has been in thought and action, and how the race has arrived at its present difficulties, is interesting but less important. The modern age has produced many theories as to what has gone wrong but few visions of what, from here on, might go right. To

fulfil its promise, ecological philosophy needs to launch an imaginative quest for an attractive, rational future.

Wrong-way Vision

To see the world inside-out is to see it wrongly. Yet that is precisely the perspective that people have brought to the interpretation of their role on Earth. The new vision, from outside-in, more accurately portrays the ecological reality. It reveals people, society, human institutions, as dependent within the encompassing context of the planet.

How to express this dawning comprehension? New verbal symbols are needed. Old words, carriers of old concepts and thoughts, are unequal to the task. Among the misleading ones are those that refer to human circumstances, to surroundings, to the milieu. Hence the significant question, What on Earth is environment?

In the following discussion, three points are stressed: (1) As conceptualized at present, "environment" is an obscurant, a grab bag of elements so hazy in their relationships that attempts at structured thought about them face certain frustration. (2) Before it can be appreciated, studied, defended, and sympathetically cared for, "environment" must be conceptualized as the three-dimensional changing and evolving World Ecosphere: a substantial surrounding reality, a Nature that is palpable as well as mystical, creative, life-producing, and life-sustaining. (3) The sectoral ecosystems that the Ecosphere comprises must be conceived as structured, evolving, and life-encapsulating, and experienced as biophysical/ecological entities, supra-organismic volumes wherein people individually and communally live, move, and have their being as constituent parts of the planetary surface.

Environment as the Level-of-Integration above the Individual

Of all the words commonly used in discussions of ecological integrity and deterioration, "environment" is surely the vaguest. That it stands for something important is attested by the many agencies and departments of government that busy themselves with managing its parts and by the army of environmentalists eager to defend them.

Yet beyond general statements pointing up, down, and around, to the air, soil, water, food, forests, wildlife, natural resources, wilderness, parks, cities, culture, society, and especially whatever impacts on community health, few agree about the exact referent of the word "environment."

The Australian Environment Protection Act defines "environment" as "including all aspects of the surroundings of man whether affecting him as an individual or in his social groupings." A proprietary essence is distilled by the Canadian Study Group on Environmental Assessment Hearing Procedures in identifying environment as "a collectively shared property." Ontario's Act Respecting Environmental Rights gives a more detailed and representatively chaotic definition, taking environment to mean:

- (a) air, land or water,
- (b) plant and animal life, including people,
- (c) the social, economic and cultural conditions that influence the life of people or a community,
- (d) any building, structure, machine or other device or thing made by people,
- (e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from the activities of people, or
- (f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario.

Note that after brief mention of "air, land or (sic) water", the focus is determinedly on people in their cultural setting. This is typical of the strong bias toward socioeconomic concerns that tends to dominate not only provincial but also federal Environmental Assessment and Review Processes, deftly substituting people problems for those of the broader sustaining milieu which accordingly suffers neglect.

The difficulty stems from perceptions that humanity is in control of the world, possessing it as property, successfully shaping it through the cultural tools of science and technology. This pre-ecological attitude, popularized particularly by Marxists, conceives "mere" Nature and

"brute" Nature as little more than dross until assimilated purposefully by humans into rational-intentional forms. Nature is an erratic, disorderly bitch to be tamed, domesticated, and reformed in the service of humanity. Hence the deduction that the important environment is the built environment, along with its socio-economic culture.

The ecological revolution of the second half of the twentieth century demolished the fiction of human self-sufficiency. True, each individual draws mental and physical support from society and from the artifacts provided in the built environment, but the social context to be vital must also include the life-supporting processes of the world, of natural ecosystems.

Human culture may improve the efficiency of the extraction of materials and energy from Nature, but it is not itself the materials and energy. The community may provide meal tickets for human banqueting, but it is not itself the sustenance. The "socio-economic environment," considered of foremost importance, is in fact attached by the umbilical cord of technology to the planet's vital processes. It is dependent on them and functionless without them. The economy, supported by the Ecosphere and its sectoral ecosystems, will soon be dead unless *Sustainable Environment* attracts more attention than *Sustainable Development*.

Populations and communities and cultures are not integrated levels-of-organization because they omit, in concept and in fact, the matrices that confer substantiality. If those binding and supporting matrices of Nature are added, then populations, communities and cultures are transfigured into substantial ecological systems--into ecosystems.

In order to be consistent with the nature of the organisms that "environment" surrounds, the latter must be as tangible as they but at a more inclusive level-of-organization. This higher level is the definition of an ecosystem, i.e. all the biota within a given volume of World-space integrated with that World-space.

Common language obscures this logic by presenting populations, communities, societies--all of which are non-volumetric taxonomic categories--as if they were substantial entities equivalent in status both to volumetric organisms and to the three dimensional

ecosystems that encase organisms. They are not. The categories are as different as the abstract species Homo sapiens and an honest-to-God wise human. Further, a false tangibility is frequently granted to the ideas that hold human populations and communities together.

As long as environment is interpreted as referring primarily to people-associations and their institutions in the cultural milieu, as long as it is muddled up with the socio-economic system and such abstractions as Teilhard de Chardin's "noosphere," the tormented world will not get the attention it deserves and needs.

Environment--its own Pejorative

The etymology of "environment" offers no easy path out of the morass created by hazy concepts. The word is derived from the French 'virer,' to turn, whence 'in/viron' meaning to encircle. To encircle implies a centre, suggesting that other things of greater interest lie within. Thus, nebulous "environment" surrounds more sharply defined realities, such as organisms and people, from which at second hand it derives its status. A subtle sycophant, environment used in this way reflects back to peoples' preoccupation with themselves.

Environment's self-effacement is the source of its problems. If it is merely peripheral, consisting of the secondary odds and ends that surround people, then people are obviously more important than it. Hence, in the crunch when choices must be made, say between more industrial development to enrich and bedizen humanity versus less industrial development to protect and maintain the environment in beauty, health and permanency, the response is: "First things first, and let environment take its chances." After all, which is more important: people or tropical forests, farmers or fertile soils, jobs or environment?

Furthermore, by extension of the same logic, if society does not continually increase industrial development, forcing economic growth both domestically and internationally by fostering trade and consumption, then where will the wealth come from to clean up the environment? The message is clear: "Seek first a vibrant economy, for wealth will cure all ills." In the words of the Brundtland Commission, the key to progress is forceful economic growth!

Flying in the face of such logic are the worsening problems of chemical changes in the atmosphere, of water pollution, soil degradation, and food toxification as economic development intensified by population growth gathers speed world-wide. Today's problems suggest that whatever the people-encircling "environment" may be, its importance far exceeds that conveyed by the weak word. Behind the verbal disguise lies a reality greater than "that which (merely) surrounds organisms." Indeed this latter definition, adequate for biologists narrowly fixated on biota, must be replaced by one more substantial; namely, *the planetary ecological system in which organisms are encapsulated as parts.*

Recognition of the global ecosystem as the objective thing behind environment's facade will mark a major conceptual advance for the human race.

The Ecosphere is the Prime Reality

The immediate reality for people on Earth is the layered skin of the planet, no less miraculous for appearing commonplace and simple in composition. It consists of a thin gaseous stratum resting on liquid and solid strata, with organisms concentrated at the phase boundaries. The gaseous layer is the *atmosphere*, the liquid is the *hydrosphere*, the solid is the soil-and-sediment bearing *lithosphere*. Within this three-way matrix, organisms and their surrounds are often said to comprise a communal fourth sphere, the *biosphere*--a term apt to mislead by suggesting the preeminence of organisms.

Actually all four constituents--air, water, earth, and organisms--are essential parts of the one homeostatic whole, the *Ecosphere*: literally the *Home-sphere*. This word for the planetary ecosystem has the double advantage of reminding humanity where it is domiciled, while expressing no prejudice in favour of organisms, hence no denigration of earth, water and air as less than organisms, as merely their environment. It implies equal importance among all components, while also implying that everything existing within the Ecosphere, including the human race, is a product of it, a subdivision of it, a part of it, and therefore less important than it. The Whole Home is the prime reality; all else within is fragmentary, disarticulated, lost, and meaningless until

conceived and experienced in the context of the Ecosphere.

The derivations of the words 'art' and 'religion' suggest that their functions are to seek ways of joining and binding together. Both human quests can fruitfully ponder the questions that ecological insight into the Ecosphere/people relationship poses for articulators and healers: Who in the World are you? What on Earth are you doing?

Ecosystems: Sectors of the Ecosphere

The Ecosphere shell that encases the planet is bubble-thin but four-dimensional in space and time. Like the air masses, soils, and oceans that are parts of it, the Ecosphere can be sectioned into particular ecosystems, by conceptually imposing boundaries. Each ecosystem is a layered "box" abstracted from the Ecosphere, its air layer overlying a soil and/or water layer and with organisms encapsulated at the solar-energized interface. Each ecosystem, like a larger version of the microcosm aquarium or terrarium, is a segment of the Ecosphere, a part possessing a higher order of organization and integration than its constituent air, water, sediments, and organisms. Note that ecosystems are neither organisms nor super-organisms. Ecosystems are *Supra*-organismic; they are different from and more important than organisms.

The Ecosphere is realistically conceived as comprising a hierarchy of ecosystems, like boxes within boxes, defined at various scales--zonal, regional and local--for purposes of contemplation, study, and ministrations. These sectoral ecosystems--simplistically named seas, continents, mountains, plains, deserts, forests, lakes, rivers, settled lands, farm fields, towns, according to prominent natural or cultural features -- possess an importance that far transcends their contents.

The myriad forms of evolved life are the historic fruits and contemporary components of these evolved volumes. Humanity came into being within regional ecosystems--forest, savannah, grass-land, seashore--as symbiotic parts of them, co-evolved with them, inseparable from them, along with a host of companion organisms of equal merit and importance.

Living things arose within the ecosystems that the Ecosphere comprises. Thus the truth: Life is a phenomenon of the Ecosphere. Life is not something possessed by organisms, except in a limited and incomplete sense. From this a corollary: "Ecosystems have organisms" is a more discerning idea than the conventional "Organisms have environments."

The Heavenly View

Another Copernican revolution began when the electrifying moon-shots of the world came back from outer space, for they provided visual proof of a supra-organismic reality--a sun circling cloud-swathed blue-and-green globe in whose structure, processes, and functions people participate, along with a host of other life forms.

The outside view, the heavenly view, cast humanity in an ecological perspective that could not be ignored. In the beginning was the World. In and from it, by some generative miracle, dependent people emanated.

Consider how this vision could have enlightened knowledge, philosophy, science, art, had it been granted four hundred years ago! Suppose people had been given the heavenly view to see the Earth whole before, immersed in it and feeling around like the blind men with the elephant, they had built up their fabled ontology, deciding that this fragment and that fragment, this piece and that piece was separate, autonomous, real.

With such transcendent insight at the time of Galileo, the geniuses of the race could hardly have failed to recognize the Ecosphere as the Unity, the Whole, the reality to evoke wonder and valuation above all else.

After the impact of that recognition, the arts would surely have taken a truer path, at least to the extent of diluting the humanistic narcissism that today is killing the world. Science too, the servant of humanity's questionable quest for power, might have escaped its narrow stultifying focus on human welfare and its naive faith in coercion of Nature as The Way.

Seeing the world whole, the race's thinkers might have brought their reductionist analytic skills to the task of better understanding the evolutionary processes in the history of the Ecosphere, viewing with amazement its

contemporary functional unity, identifying the major components--atmosphere, ocean, continental platforms, plant and animal assemblages--and anatomizing these in turn, but always aware that they were perceiving parts of a magnificent Whole.

Eventually, by dividing and subdividing, the savants would have come down to themselves, to humankind, one of the Ecosphere's interesting species, hundreds of millions of protoplasmic "cells" tumbling about the surface of the planet like curious leukocytes, a self-conscious constituent gifted with glimmerings and premonitions of the part/whole relationship, the matter/mind relationship, the mind/spirit relationship, a part apparently intended to be a care-giver to the world.

But this is not human history. It has not yet happened. Humanity's thinkers, submerged in the Ecosphere, were unaware of the surrounding Whole. Inside it, they could not comprehend their medium. They did not perceive that things other than their kind might have important functions, purposes and roles in the context of the larger unsensed reality.

So they interpreted as separate entities all the light- reflecting objects perceived, starting with themselves as most important and working outward to other things with properties most like themselves: animals and plants. Latest in the scheme of importance came the peripheral odds and ends of air and climate, soils and sediments, salt water and fresh water, surface and subsurface rocks and minerals. When the utilitarian aspects of such parts were recognized they were called "raw materials" and "resources;" when their life-enhancing properties drew sufficient attention they were dignified as "environment," In the 1980s they are deemed worthy of protection--"by forceful economic growth" in the words of the Brundtland Report.

The view from the outside came 400 years too late. By the time it arrived scientists had already accepted that the planet and the universe outside it is a dead machine, a conglomeration of little balls made up of little force fields. Disciplines budding off from physics developed their own purblind fields of materialistic expertise, their own autonomous objects of interest that soon were set in cement; their practitioners assured of certain certainties as to the nature of reality and what merited study.

Dazzled by the popularity and power of the natural sciences, the social sciences and humanities followed suit, accepting the ontology of disarticulation and its matching epistemology of objectivism. Universities and governments were departmentalized to manage the fragmented world.

So, it is that the truthful vision recently gained is confounded by a tradition foreign to it, written out in millions of books and treatises which assume as axiomatic that the bits and pieces of the Ecosphere are free-standing entities whose God- given purpose is to service the species that has arrogated for itself the specific epithet sapient. "The proper study of Mankind is Man." "The Earth is our Heritage." "Resources were put here to be used." Such ideas, conventionally believed to be wise, are nonsense.

Thinking the World to Pieces

Glimmerings of ecological comprehension suggest that the fragments studied in physics, chemistry, biology, sociology, psychology, theology, and the other disciplines are indeed parts, that evolutionarily and functionally what have been named atmosphere, hydrosphere, lithosphere, and all the associated protoplasmic bundles that "biosphere" comprises have no separate reality except as wrong ideas implanted by a crude culture in infantile heads. Humanity has used its consciousness to think the world to pieces.

How difficult it is to comprehend that the only unity with which people are in close touch is the Ecosphere, one of whose properties is the phenomenon called life. Life is not a property of complex protein molecules arranged in double helixes, nor of the ordered mixtures of substances that constitute protoplasm. Life is a property of the planet and of the ecological systems that it comprises.

One-eyed biology, lacking depth perception, has misled by conceiving a world divided into the animate and the inanimate, the organic and the inorganic, the biotic and the abiotic, the living and the dead. The divisions are not only wrong, they are mischievous for they devalue essential parts of the Ecosphere. What would qualify as animate, organic, biotic and alive without beneficent sunlight, water, soil, and air? These components are as vital, as animated, as

important, as the organisms whose life giving sustenance they are.

Synthesis

The implications of the idea that the whole globe is an ecological entity--the Ecosphere--of which people as individuals and as communal groups in their built environments are parts, remains to be assimilated. This is today's primary task.

A beginning is to perceive humanity as one kind of dependent deep air animal, living at the bottom of the atmosphere in a confined solarium, despoiling the renewable means of its sustension, crying "more growth, more growth," injecting unnatural resources from underground into the life-space, roiling up the sediments, rendering the surroundings murky, denaturing the paradise that produced it, and all in the name of human welfare.

People exist within and as parts of the Ecosphere that over eons produced them, nourished them, sustained them, regenerated them, and will continue so to do as long as its healthy functioning is unimpaired.

People stand in the same relationship to the Ecosphere as the fetus to the woman; the welfare of both are interdependent but the priority of importance clearly rests with the mother, with the larger surrounding and nourishing system. Matter (mater) comes first.

Re-conceiving vague "environment" as something real and substantial, as the enveloping four-dimensional Ecosphere, gives new meaning to environmental protection. It confers intrinsic values not only on all organisms but equally on air, soil, water, and on *the unity* of these. It casts two-dimensional land-as-area in the perspective of three dimensional ecosystems that interact locally, regionally, and globally, providing insights to the intrinsic worth of the planet's surface.

Most importantly, the concept of Ecosphere as the prime reality can begin the cure of the disease of homocentrism by turning attention outward, ecocentrically. It lifts the human imagination above the slough of despond that is the outcome and heritage of philosophies and religions selfishly turned in on the human species, fixated on nothing greater than individuals, societies, communities, cultures. It

provides a new standard against which human ideas, moralities, and activities can be evaluated. Do they sustain the natural systems and processes of the World that themselves sustain all life? It offers a choice: Is humanity to be the protector of the planet or its despoiler, its cosmetician or its cancer?

No longer can the one and only question be, Is this particular technology, science, art, culture, development, good for humanity? A more momentous question takes precedence: *Is it good for the Ecosphere?* This in the future must be the ethical test of public policy and of individual intent.

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