Mary Taylor – July, 2013

DEEPER ECOLOGY: A CATHOLIC VISION OF THE PERSON IN NATURE

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PART ONE

Dante's great trilogy, the *Commedia*, is full of images of sailing, ships, navigation, and the guiding stars. The *Inferno* had the reckless attempt of Ulysses to sail beyond the Pillars of Hercules to where the stars of the southern hemisphere shone in the night sky[1]; the *Purgatorio* begins, "To course over better waters the little boat of my genius now raises her sails;" and the *Paradiso* reminds the reader that not everyone can commit himself to putting out into the deep (the open ocean - *pelago*): those of us who are following only in "little barks" would do well to turn back to the shore, as the muses direct Dante to the Bears, the constellations that point to and contain the Pole Star. We will return to images of celestial navigation; here, let Dante tell us how the earth appeared to him on his voyage, from the sphere of the Fixed Stars:

My eyes went back through the seven spheres below
And I saw this globe, so small, so lost in space,
I had to smile at such a sorry show[2].

Pope Benedict XVI, too, considered the earth from above, on a flight from Rome to World Youth Day in Australia; after remarking on its beauty, he added, "Reluctantly we come to acknowledge that there are scars which mark the surface of our earth: erosion, deforestation, the squandering of the world's mineral and ocean resources in order to fuel an insatiable consumption."[3] So let us start with an assertion: we are in the midst of an ecological crisis. Or, to mitigate the assertion: at the very least, many people perceive us to be in the midst of an ecological crisis, and even those who deny that there is any crisis at all must

1 Reckless not because of his desire to ask, to seek, to question; that desire is part of the very nature of the human person. Ulysses' folly was seeking to sail into the mystery using, we might say, only the navigational tools of human measure, or as Luigi Giussani put it, to "advance into the enigma of meaning…with the very means they used to sail the measurable shores of the Mare Nostrum." The Religious Sense. Montreal: McGill-Queen's University Press,
1997. P. 134, 140.

2 Dante XXII, 133-135; John Ciardi translation

3 Benedict XVI, "Address on the occasion of the Welcoming Celebration by the Young People," Sydney Harbour,17 July 2008.

still deal with those who do – and that too can take the form of a crisis!

The litany of ills is long and readily visible and does not need to be repeated here; a vast field of ecology/environmental theorists and practitioners has risen up in response. One of the central concerns for these movements is *sustainability*, which seeks the assurance that nature's resources will be continue to be available to us in the future. Its concomitant sisters are *restoration* – that which has been, in the Pope's example, eroded, deforested, and squandered, should be regenerated – and *conservation* – "setting aside," whether for genetic information to be used in the future cure of diseases, for scenic beauty, or other uses. While most people of good will agree on some form of these**,** there are different ways they can be approached.

Sustainability's core principle – that we must limit or manage growth to maintain some kind of equilibrium in the future – focuses on *human impact*. The logic of the currently dominant paradigm, its response to the recognition of ecology's importance, seems to entail something profoundly anti-human. A particularly toxic political atmosphere has enveloped us, pitting people against each other: environmental justice is demanded with no thought for environmental *caritas*. Without a firm grounding for the protection of the dignity of the human person, a zero- sum game is set up in which care for humanity can only "deflect" care for nature:

> *Our humanist solicitude towards the poor living in the impoverished suburbs of the big cities of the Third World, and our almost obscene obsession with death, suffering and pain — as if these were harmful in themselves — all these thoughts deflect our attention from the problem of our harsh and excessive domination of the natural world.*[4]

In some circles this results in a rising contempt for children, who are reduced at best to extra mouths to feed, at worst to rivals to other biological entities, a cancer on the earth. This contempt is linked to population control, especially in its most highly aggressive forms; Heidegger's critique, usually embraced by ecologists, of how a certain kind of technological mindset turns everything in nature into a "standing reserve," mere products to be

4 James Lovelock, The Ages of Gaia. Oxford University Press, 1988, p. 211.

manipulated, is ignored when it comes to reproduction. Self-discipline and moderation are demanded in regard to natural resources but rarely considered as a possible option otherwise: "One will often find a plea for ecological restraint linked – in almost in the same breath – with a plea for universal contraception and easy abortion."[5] In a list of basic environmental principles ("waste ought to be disposed of safely…biodiversity is better than monocropping"), ecologist Lester Embree includes as "common sense" that "the human population needs to be reduced by several billion,"[6] a not uncommon opinion.

What often follows are calls for coercive political control, from support for compulsory one-child policies to intrusion y international bodies into countries' internal values and even their constitutions.[7] Ecologist Neil Evernden, commenting on the defining image of the modern environmental movement, the famous photo of the whole earth, says:

> *Ironically, the environmentalists' vision of a unified planet, symbolized by images of Earth as seen from outer space, only helps legitimate the quest for control in the guise of "global management." If what is at stake is the fate of the planet, then any intervention seems justified. Thus, rather than diminish the appetite for dominance of the natural world, the environmental crisis has served to sanction virtually any activity which embraces the cause of planetary survival.*[8]

James Lovelock, creator of the "Gaia Hypothesis," said, "We need a more authoritative world. We've become a sort of cheeky, egalitarian world where everyone can have their say. … It may be necessary to put

5 Derrick, Christopher. The Delicate Creation: Towards a Theology of the Environment. Old Greenwich, CT: Devin- Adair Co., 1972. P. 118. Population demographics is a complex field; evaluations must take into account much more than simply biology, such as distribution of wealth, corruption of local governments, varying methods of limiting family size, and much more. Whatever one's position on population, the issue is the reduction of the child to nothing more than a problem of demographics.

6 Lester Embree, "The Possibility of a Constitutive Phenomenology." Eco-Phenomenology: Back to the Earth Itself. Eds. Charles S. Brown and Ted Toadvine. Albany: SUNY Press, 2003. P. 47.

7 Wendell Berry argues that the belief that one's method will ultimately provide a totality of answers leads to the corollary belief that it must, and that nothing should stand in its way. Life is a Miracle. Berkeley, CA: Counterpoint Press, 2001. Pp. 30-32.

8 Neil Evernden, The Natural Alien. Toronto: University of Toronto Press, 1993. P. 149. And Wendell Berry reminds us that Dante saw the whole earth "from a higher level of human accomplishment, and at far less economic

democracy on hold for a while."[9] Garrett Hardin said that "the freedom to breed is intolerable…. If we love the truth we must openly deny the validity of the Universal Declaration of Human Rights. "[10] David Wood believes that if preserving the environment is the goal, "the argument that there are circumstances in which democratic societies might suspend democracy is not as totalitarian as it might seem."[11] Examples could be multiplied, but in the end, the loss of persons – the "abolition of man," as in the title of one of C.S. Lewis's books – seems almost a desideratum, reachable only through the total control of the state.

Catholics agree that the earth and all living things are beautiful and praiseworthy in their own right, and further, they see creation as a gift from God, especially precious because the Incarnation means that Christ "unites himself in some way with the entire reality of man…and in this reality with all flesh, with the whole of creation."[12] And so the ecological movements present Catholics with a dilemma; they struggle with finding ways to harmonize their love for God and love for His creation while being faced with the ideological antagonisms directed against human life and dignity and toward excluding faith from the public forum.

Catholics know that our connection with nature goes deeper than the material, for "the experience of awe before the beauty of the created order is a glimpse into our ontological, not merely biological, origins."[13] The manifestations of brokenness – both environmental degradation and disregard for life – are the result of actions that arise from free human choices; those choices may be economically or politically or even ethically motivated, but they have deeper roots. While there is not one single cause of those environmental crises (there are many proximate causes, some local, some not), *ultimately* questions about our relationships with others and with nature do not stand alone, but take

and ecological cost, several hundred years before NASA." Berry, op. cit., pp. 16-17.

9 Interview with Leo Hickman. Guardian 29 March 2010. http://www.guardian.co.uk/environment/blog/2010/mar/29/james-lovelock

10 "The Tragedy of the Commons," Science 162 (1968): 1243-1248.

11 "What is Eco-Phenomenology?" in Eco-Phenomenology: Back to the Earth Itself, op. cit., p. 231.

12 John Paul II, Dominum et Vivificantem

13 Christopher J.Thompson, "Beholding the Logos: The Church, the Environment, and the Meaning of Man." Logos. 12:3, Summer 2009. P. 41.

their place within greater ontological and meta-anthropological dimensions, and must be faced by turning to those dimensions: what do we take to be real and who do we think that we are.

Let us look at the ontological question first, by returning to Dante, whose voyage culminates with one of the most famous passages in literature, "the Love that moves the Sun and other stars." Encountering the Trinity as a tri-form rainbow, he asks a question for which only a neologism will do:[14] the reflexive verb "*s'indova*", from the adverb "where." How is it that the person – and by extension all of nature, of creation, finite, limited, bound by time – "*in-where's- itself*," finds its dwelling, in the profound revelation of infinite, unlimited, timeless Love? What the poet Dante then saw in the *fulgore*, the flash that cleaved his mind, was what the theologian Hans Urs von Balthasar's own trilogy sought to illuminate: how created nature – including beauty, freedom, finitude, goodness, and truth – "s*'indova*" in the greater Mystery of eternity.

14 Dante often found himself needing to invent words. Beatrice is she "quella che 'mparadisa la mia mente" – Canto 28, line 3 – she who "im-paradises" my mind; Paradise is "dove gior s'insempra" – Canto 10, line 148 – where joy "in-always-itself-forever."

Most people think of "environmentalism" as having to do with such things as recycling or the rights of animals. What might be surprising to those not familiar with current eco-philosophical thought is that ecological scholars struggle with the very things Dante and Balthasar wrote about: the relation between being and Being, finitude and infinity, history and ontology, the concrete, unique particular and the "whole" of "holism". Unable to find a way to integrate the concrete, unique particular and the "whole" of "holism." Unable to find a way to integrate the polarities, many simply deny the tension. Suppressing one side, they resort to identity, either material or pantheistic: persons are materially or spiritually identical to nature. In dealing with transcendence and immanence, "emergent ecology," with so many insightful things to say about how novelty arises, can only deal with the former by defining it as another form of the latter, a "horizontal" one, while "panentheist ecology" sometimes collapses into incoherency. Still others embrace a permanent state of agonistic, if not antagonistic, opposition between all the pairs, embracing not Dante's translucent, ever-deepening mystery of light, but what D.C. Schindler calls "the murky night of

ambiguity."[15]

Dante also speaks to the problems surrounding the first question. Ontological problems always lead to anthropological problems, and as John Paul II said, "At the root of the senseless destruction of the natural environment lies an anthropological error."[16] When Dante referred to "squaring the circle"[17] he was not merely seeking to balance the two sides of abstract, incommensurable dualisms. He saw a "third thing," which alone holds the harmonious tension between unity and diversity, time and the eternal: he "perceives something completely new and inconceivable for the Greek philosopher …the perception of a human face, the face of Jesus Christ."[18] The encounter with the *face* of the other, both other creatures correctly understood and the Other as the divine, lies at the heart of what we will call the Third Trajectory in ecology.

Who we are cannot be understood apart from our end, where we are going. Catholics can bring more to the ecological table than merely following *behind* environmental movements by putting solar panels on churches, or even by explaining the concept of stewardship. The tensions of existence, relationality, the meaning of the person, and a recent interest of the ecologists, the iconic nature of the earth, are among the very same topics that have engaged Catholics from the beginning and especially in the past century. But perhaps it is the "*covenant* between human beings and the environment, which should mirror the creative love of God,"[19] that best manifests our opportunity for contribution. One set of responses to environmental problems is primarily mechanical and contractual, restricted to the technical and economic spheres.

A second set turns to an interconnected relationality, to the sphere of ethics and to various schools of philosophy (someone once said that environmentalists are so wedded to recycling that they extend it to recycling philosophies: hence we have ecological

15 D.C. Schindler, Hans Urs von Balthasar and the Dramatic Structure of Truth: A Philosophical Investigation. New York: Fordham University Press, 2004. P. 6.

16 John Paul II, Centesimus Annus 37

17 Paradiso XXXIII 135

18 Benedict XVI, "Address to the Pontifical Council Cor Unum," 23 January 2006.

19 Benedict XVI, "The Human Family, A Community of Peace," Message for the World Day of Peace, 1 January 2008.

hermeneutics, environmental pragmatism, critical ecology, etc.). But what is needed is the *widest possible paradigm*, one which includes all the spheres below it, a "catholic" ecology, so to speak. This would be "a dynamic philosophy which views reality in its ontological, causal and communicative structures… [and] which allows a full and comprehensive openness to reality as a whole."[20]

Covenantal relations, both with other persons and with creation, take into account all these structures; requiring the gift of self, they are deeper than contracts but contain them, as *eros* can only be fully itself inside of *agape*.[21] At the heart of these relations is solidarity: the recognition of a common desire for beauty and meaning, the realization that we share a common destiny with other beings, the apprehension that the participation of others is necessary for a common good that is deeper than the co-incidence of our private goods or our ideology. That ecological issues are profoundly tied up with the ontological and anthropological tensions of existence – between self and world, nature and freedom, persons and community – is not unknown to ecological thinkers. That the lynchpin between the pairs should be not merely an idea, concept, ideology, or theory, but the concrete encounter of "environmental solidarity" may not be self-evident, but it is true. This third way will be seen to be a reversal of our normal vision, a transposition to another register.

A recent text claims that there are over 200 schools of thought in ecology today. We will consider them here under the rubric of "trajectories," a word borrowed from Pope Benedict XVI; the word is chosen specifically because they encompass not – or not only – theories, but ways of thinking, of being, of acting, of living. It is always perilous to generalize, but the term is not meant to be totalizing metanarrative, a rigid taxonomy, a way to "control and colonize" ecological thinking, or a way to deny the complexity, variety, and distinctions within each trajectory. Instead, the term is meant simply to point to, as Wittgenstein would put it, family resemblances. The First and Second Trajectories – the contractual and relational responses – will be examined in part two, while part three will cover the Third Trajectory and the warrant for

20 John Paul II, Fides et Ratio 97.

21 Benedict XVI, Deus Caritas Est, Part One.

solidarity. The paper closes in part four with a "metaphorical coda," a reflection on a practice that embodies solidarity.

PART TWO

First Trajectory

A chemical company remediates a polluted site by digging up the contaminated earth and carting it away. A paper-and-pulp company plants a tree for every tree cut down. A nonprofit gets a scenic area set aside as a wilderness preserve. Any environmental project which seeks to conserve, restore, recycle, or otherwise manage natural resources *when those resources are seen only in terms of their utility*, and where sustainability is understood as nothing more than "utility extended into the future," falls under the First Trajectory – the "instrumental rationalism of resource managerialism."[22]

Sustainability indicators – complex quantitative tools combining various indices and metrics – have been developed to highly sophisticated levels. Rightly ordered, they may be useful tools within the other trajectories, but here their defining feature is a reductive mode of thinking based on an antecedent calculative utilitarianism in which all factors are stripped down to the measurable for a single goal: "environmental policies are designed to maximize human satisfaction or minimize human harms."[23]

Profits are maximized, but so are problems: the first company benefits from the quickest technological fix while externalizing many economic costs, but merely displaces the problem elsewhere, and often finds itself in conflict with those who live in the "elsewhere;" the second ends up with a monocrop forest that destroys diversity and animal habitats; the third sets up a dichotomy between natural and "artificial" lands[24] legitimized by the value of the scenery, often pitting the livelihood of the locals against those they see as "elite environmentalists."

22 Timothy Luke Ecocritique: Contesting the Politics of Nature, Economy, and Culture. Minneapolis: University of Minneapolis Press, 1997. P. 78.

23 Eric Katz, "The Call of the Wild: The Struggle Against Domination and the Technological Fix of Nature," Postmodern Environmenta1 Ethics. Ed. Max Oelschlaeger. Albany: SUNY Press, 1995. P. 165

24 Luke contrasts "natural" lands, those with little human presence, with "artificial" ones, including cities and farms. The dichotomy commodifies the preserved land, turning it into an object.

What is at the root of these problems? The First Trajectory's antecedents are found in modernity's dualism between the person and the world; the human is the subject and nature is the object, to be known by a form of science seen as the final arbiter in all human endeavors. As *res extensa* – organized assemblages of extrinsically related parts – nature is the object to be mastered by technology. This mechanistic and positivistic ontology at the heart of modernity makes technology the measure of all things. It truncates reason to instrumentality; it reduces the complex depth of causality to a debased form of efficient causality alone; in its demand for total explanation, it cannot account for freedom over against determinism;[25] and it gives rise to irrational, defensive responses such as fideism. In ethics, it claims neutrality, but is relentlessly, even blindly, utilitarian.

The criticism of the First Trajectory is not a blanket criticism of technology, which has in some real sense been a boon to humanity; its benefits in so many fields, from agriculture and architecture to medicine and telecommunications, have dramatically improved the human condition. It has had some success in solving problems at the technical level (some of which, like oil spills, it is responsible for). The practice of science that is born of wonder is a good both in its discoveries themselves and in the good that it brings to people—though, as we will see below, a proper assessment of technology requires an acknowledgment that it is not simply a neutral "instrument," but that the nature of the means bears significantly on the nature of the end achieved. If correctly understood, as Pope Benedict XVI has said, "Technology… is a profoundly human reality…produced through human creativity as a tool of human freedom;" in it, "man recognizes himself and forges his own humanity."[26]

But it becomes too easy for the trajectory's assumptions to develop into an ideology, something that closes itself off to further questioning and to true human community, becoming an end in itself. This happens when, in its ruthless division of fact from value, it does not merely deny that it can answer ultimate questions of value and meaning, but

[25] "Emergent ecology" attempts to account for freedom, but with only partial success; to explain why, however, would have to be the topic of another paper

[26] Caritas in Veritate (hereafter CV) 69

says that *the questions themselves are either meaningless or unanswerable*. As Hans Urs von Balthasar says: *We have to feel our way back; we have to overcome certain blindness to the primal value of being. This sick blindness is called Positivism, and it arises from regarding reality as raising no questions, being "just there"….When men are blind to the further question, it signifies the death of philosophy…For philosophy begins with the astonished realization that I am this particular individual in being and goes on to see all other existent entities together with me in being; that is, it begins with the sense of wonder that, astonishingly, I am "gifted," the recipient of gifts.*[27]

Earlier times saw things after the model of living organisms, with their own interiority, unity, and relationality; because modernity descends from a nominalism that allows no interior intelligibility, form, or nature, other than what the mind ascribes to things, it sees no unifying order but only a plurality of particulars without intrinsic connection, and hence cannot get a purchase on "life" but only on a mechanistic form of biology. The denial of the interiority of natural things turns animals, plants, and landscapes into commodities, accelerating the possibility of environmental degradation and cutting off all hope for solidarity with nature.

Solidarity with persons fares no better. Anthropocentrism finds its natural home in this trajectory, which reduces considerations of nature to a cost-benefit analysis of its worth to humans, yet even its anthropocentrism "loses" the very persons it seeks to privilege. Some scientists now make claims to "Theories of Everything" that reduce both nature and the person to sociobiological gene carriers, laws of physics, or little more than variables in equations.[28]

Heidegger's most chilling insight into modernity's objectification of nature was that not only was the non-human world of animals, plants, and minerals turned into a "standing reserve," but the possibility arose that humanity – divided into absolutized consciousnesses and bodies related to as machines – would itself become commodified, like the human bodies in

[27] Hans Urs von Balthasar, Theo-Drama II: Dramatis Personae: Man in God. San Francisco: Ignatius Press 1990. P. 286.

[28] See, for example, the work of E.O. Wilson or Stephen Hawking.

the film *The Matrix*, which were appropriated by a ruling class of sentient machines as nothing more than sources of energy – living batteries.[29]

The assumptions of the First Trajectory provide an inadequate grounding for a solidarity of persons because the person **c**annot be reduced to, or fully determined by, the physical and biological, and is not satisfied with functional, mechanical, or technical answers to the deepest questions. Relationships with persons are described in the language of contracts in which people are reduced to their extrinsic interests and the intersections of their private goods – a simulacrum of a true common good.[30] The many self-giving acts performed by those who operate under First Trajectory assumptions are done by people whose humanity escapes the constraining chains of ideology, for of course no one lives within this worldview at all times, or life would not have been worth living. Many of the assumptions of modernity have been repudiated by physicists, postmodern philosophers, ecologists, and theologians, but its pervasive influence, the extension of its positivism to every human endeavor, has become for most people the very air they breathe.

Second Trajectory

The Second Trajectory is the home of all projects which focus on nature as a holistic system that needs to be sustained for its own sake and not simply for human utility and efficiency. The idea is not to save nature for humans, but to save it by "letting be." The same issues of sustainability, restoration, etc. may be considered, but they must be extended to living creatures and to the land. Second Trajectory ecological thought arose positively with the awareness of the delight to be taken in the natural world that was missing from positivism. It invokes, often in expressions of great beauty, the wonder at the heart of our relation with the earth. Philosophically, the Second Trajectory is part of postmodernity's attack on the presuppositions of the Enlightenment,

[29] Heidegger was prophetic. We now cannibalize aborted babies for a variety of commercial uses.

[30] Contracts of course work well in many situations of mutual benefit; we are happy to pay someone to, say, mow our lawns, and even husbands and wives are "useful" to each other. But solidarity based on contracts or utility alone is ultimately inadequate in that it is inhuman in the disregard for the dignity of others – what do we owe those who are rationally unable to enter contracts, such as the unborn? – and in the lack of self-giving; what is exchanged is only what is external to our selves.

including its assessment of the subject/object distinction in epistemology and mind/body, self/nature dualism (eco-phenomenology has been very influential here), and the overemphasis on reduction, mechanization, and quantification, derived from physics and extended to other fields.[31]

The fact/value distinction is also repudiated. The First Trajectory field of "environmental management" is criticized as simply continuing and legitimizing the worst values of modernity: its "spectacle of contradicting experts" concentrates on "material pollution" while not seeing that the problem is one of "moral pollution" and that the various debates are actually about much wider *ethical* issues: "*what constitutes a good life*." [32] It was understood that a move had to be made from the technical/economic to the ethical sphere; so, for example, ecologist Holmes Rolston III channels Aristotle, noting that reasoning in environmental ethics frequently proceeds from the observation that natural entities have certain physical or biological characteristics to the conclusion that they have certain sorts of value or goods and then to the further conclusion that we have certain obligations toward them. This two-step pattern, which [Rolston] characterizes as a "transition from *is* to *good* and thence to *ought*" aims to provide environmental ethics with a solution to Hume's is-ought problem.[33]

It was Heidegger who first turned ecologists to the step beyond ethics, to questions of metaphysics and ontology. Even for those ecologists who seem to champion only finitude and contingency, there arose questions about the relationship between the limited and the unlimited, the particular and the universal, time and eternity, the immanent and the transcendent, however the second term in each pair is defined.

[31] Postmodernity is seen by people like David L. Schindler and David Bentley Hart as a reaction to modernity but one that still takes place within modernity; as Hart puts it, it is "the culmination of the critical tradition of modernity." (The Beauty of the Infinite and the Aesthetics of Christian Truth. Grand Rapids, MI: Wm. B. Eerdmans Publishing Co., 2003. P. 6). That said, within the confines of ecological thought it makes sense to distinguish postmodern ecology from the managerial environmentalism of the First Trajectory, especially since these ecologists define themselves as standing against modernity.

[32] Neil Evernden, The Social Creation of Nature. Baltimore: Johns Hopkins University Press, 1992. Pp. 3-4.

[33] John Nolt, "Problems with the Move from Is to Good for Non-sentient Organisms," <http://www.environmentalphilosophy.org/ISEEIAEPpapers/2007/Nolt.pdf>.

While sharing the above concerns, the ecologists of the Second Trajectory are nevertheless very diverse. The Trajectory divides, on the one hand, into those looking for the One (wholeness and identity), and, on the other, those choosing the Many (difference). At one end of the spectrum is a holistic ecophilosophy that it finds its fullest expression in Arne Naess's "Deep Ecology." Holism has been especially characterized by biocentrism and ecocentrism,[34] which arose in direct opposition to the perceived anthropocentrism of the First Trajectory, and by the demand to consider the whole, whether ecosystems or the entire planet. At the other end of the spectrum, many postmodern ecologists think holism evinces a longing to return to a golden age of innocence, of harmony with nature, which is neither physically nor logically possible. In the end, they say, positivism and holism are mirror images, each believing that it has a privileged access to "pure" nature itself, and that language is nothing more than a transparent vehicle for expressing truths about it. For these postmodern ecologists, nature, while exceeding our speech, is not prediscursive; talk about nature *constructs* "nature." Hence they agree with Nietzsche that there are only perspectives or narratives, none of which can rise above the others in a totalizing metanarrative. Neither positivism nor holism can account for this plurality of perspectives. They seek clarity and certainty, but for postmoderns, the courageous choice is ambiguity, Merleau-Ponty's "hyperdialectic – a dialectic without synthesis."[35]

Second Trajectory ecological thinking ultimately stumbles into some of the same pitfalls as the First. In ecological mysticism ("Gaia" holism) there can be an irrational response to science that is truly fideistic;[36]

[34] As John Paul II has observed, this perspective proposes that "the ontological and axiological difference between men and other living beings be eliminated, since the biosphere is considered a biotic unity of undifferentiated value." John Paul II, "Address to the Conference on Environment and Health," March 24, 1997.

35 Maurice Merleau-Ponty. The Visible and the Invisible. Evanston, IL: Northwestern University Press, 1968. P. 94. Ecologist Romand Coles says that beings are captured "neither by the logic of identity [holism] nor that of contradiction [dualism], but rather require a difficult elaboration of overlappings, tensions, and paradoxes – all of which are too multiplicitous ever to be reduced." "Ecotones and Environmental Ethics." In the Nature of Things: Language, Politics, and the Environment. Eds. Jane Bennet and William Chaloupka. Minneapolis, MI: University of Minneapolis Press, 1993. P. 288.

[36] "Disengagement from nature tends to be epitomized in rational detachment. But mystical union with nature, though seemingly opposed to rationalism, expresses the same disengagement from experience and search for universals. Both theoretical rationalizing and romantic spiritualizing attempt to apprehend nature in the abstract by negating that which was to be understood." Sally

despite claiming to eschew reduction, there is reduction to biology throughout; despite, or perhaps because of, its emphasis on interconnectedness and relationality, it evinces an inability fully to account for the unique place of persons (a "someone," or as Martin Buber says, a "Thou") in the order of nature. There arises the spectacle of competing claims between, for example, persons and endangered species, and the difficulties adjudicating those claims. The interminable permutations of theories about how to value individuals in relation to the whole – how do we balance substantive entities with an interconnected web? – are displacements of larger questions that culminate in the metaphysical questions of identity and analogy. The Second Trajectory's core ecological insight into the interdependencies of all things animate and inanimate, while true, still can result in a conflation and confusion of the physical, the natural, and the human.

The Second Trajectory's holism is a philosophy of identity, in which, Benedict XVI has said, "the person is not an ultimate reality…[since] the person, the contrast between the I and the Thou, belongs to the sphere of distinctions;" instead, the boundaries between persons, and between persons and the natural world, "are absorbed, are revealed as provisional."[37] True solidarity based on respect is impossible not only with humans but with nonhuman entities if each living thing is nothing but "a dissipative structure, that …does not endure in and of itself but only as a result of the continual flow in the system."[38] At the other end of the spectrum, many postmoderns, under the guise of privileging difference, deconstruct persons into a congeries of hidden forces: social, psychological, biological, and economic. They are not moral agents but raw material in various struggles for supremacy. Relationships are "unmasked" as being driven by these struggles, and all perspectives are equivalent; but if truth, beauty, and goodness are trampled on and lose their authority, power is the final arbiter, and the door opens to coercion**.** Solidarity can no more be rooted in power relations alone than it can be rooted in contracts alone.

Gadow, "Existential Ecology: The Human/Natural World." Soc. Sci. Med. 35:4 (1992):597-602. P. 599.

37 Benedict XVI, Truth and Tolerance. San Francisco: Ignatius Press, 2004. P. 34.

38 H. J. Morowitz, "Biology as a Cosmological Science." Main Currents Modern Thought 28, 1972. P. 156, Quoted in Gadow, p. 600.

Despite these criticisms, there is insightful, beautiful, and promising work in the Second Trajectory. There is common ground with Catholic concerns: some eco-phenomenologists especially look to personalism to resolve the issue of substantive beings; others point us to almost a kind of "theology of the body" in their analysis of the embeddeness of the human body in the sensuous world, the place where the personal and the natural come together; still others intuit that "truth is symphonic,"[39] that we need the perspectives of others. "My own eyes are not enough for me; I will see through those of others." says C.S. Lewis. "Even the eyes of all humanity are not enough….Very gladly would I learn what face things present to a bee or a mouse."[40] Herein lies the ground for dialogue, not forgetting the ever-greater differences.

PART THREE

Third Trajectory

A few years ago, a young consecrated layman, Ricardo Simmonds,[41] was given the project of creating a small park out of a garbage dump in a South American shantytown. If it had been a First Trajectory project, the initial step might have been an economic feasibility study, followed by hiring a planning/redevelopment consultant, then seeking out landscape designers, waste management engineers, and other technical help. A Second Trajectory project might have begun with an environmental impact assessment and a stakeholder charrette. Instead, Simmonds put a large statue of the Virgin Mary in the middle of the dump. First the mothers came to pray and plant flowers, carving out natural walkways; the children came to play; the fathers came and began hauling the garbage away; then others from both the shantytown and the city saw something beautiful happening that they wanted to be a part of, and volunteered their services, time, and money. This might seem like an isolated, irrelevant, or

[39] A title of one of Balthasar's books. "The orchestral approach to achieving coherence and coordination in international environmental policy is inspired by the unity-in-multiplicity that is the human condition at the advent of the third millennium." J. Baird Callicott." "Multicultural Environmental Ethics," Daedelus 130:4, 2001. P. 77.

[40] An Experiment in Criticism. Cambridge: Cambridge University Press, 1961. P.140.

[41] A member of the Sodalitium Christianae Vitae and the founder of "Creatio," a Catholic nonprofit that seeks reconciliation between persons and creation as a response to environmental problems.

marginal event, and clearly a religious statue reflects a very specific milieu, but large-scale environmental projects have been carried out in a similar way: by *revers*ing the standard order of starting with technical fixes and economic costs, which often lead to various social or political conflicts, and instead beginning with the common call to meet our deepest shared needs for meaning, beauty, mystery, and friendship. The other steps are not eliminated but are rightly ordered under what is most important.

We can see the above as an illustration of what Benedict XVI called a "new trajectory" in action:

A new trajectory of thinking is needed in order to arrive at a better understanding of the implications of our being one family; interaction among the peoples of the world calls us to embark upon this new trajectory, so that integration can signify solidarity rather than marginalization.[42]

The name "Third Trajectory"[43] gives the impression that it is another possible path to be set alongside the other two. But it is not simply another, ultimately indifferent choice, or a response to the others; it remembers and integrates what is good in them, while at the same transcending them. Ecological postmodernity vehemently rejects modernity – its "metanarratives,"[44]its dualisms, its desire for certainty rather than ambiguity – but postmodernity, precisely because it is a *reaction* to modernity, is not radical enough: it does not return to the roots of the issues at hand. This Trajectory really is new because its

[42] CV 53.

[43] I do not include the "Yale School" (the "Narrative School") of postliberal theology under the Third Trajectory. The narrative-linguistic-cultural impetus is exemplified in "ecological spirituality" institutes like The Forum on Religion and Ecology, which sees religion simply as providing "basic interpretive stories of who we are, what nature is, where we have come from, and where we are going." (M.E. Tucker and J. Grim, in D. Hessel and R.R. Ruether, Christianity and Ecology: Seeking the Well-Being of Earth and Humans. Cambridge: Harvard University Press, 2000. P. xvi). In the end, the cultural-linguistic framework, which sees religion as something that functions like the Kantian a priori, is a postmodern response to dualism, not a revisioning of ontology and anthropology, and as such it falls firmly within the Second Trajectory

[44] Merold Westphal sees Christianity not as a totalizing metanarrative, but as an open "meganarrative." Jim Beilby, "Metanarrative or Meganarrative: The Implications of Postmodernism for Theology: On Meta-Narratives, Foundationalism, and Realism." Princeton Theological Review 34. <http://www.princetontheologicalreview.org/issues_web/34_text.htm>

very grammar begins from a qualitatively different launching point, so that the ensuing alternative arc of its flight traces a solidarity that can embrace, heal, and bring to fruition all that is good in the earlier trajectories. This trajectory, to borrow from David L. Schindler, is able "to integrate the achievements of modernity, while at the same time moving us truly beyond modernity." [45]

Benedict XVI sees both the extrinsic, functional relationality of the First Trajectory and the interrelatedness of the Second Trajectory, whether due to biology or choice, as inadequate: "Thinking of this kind requires *a deeper critical evaluation of the category of relation."*[46] This task, he continues, "cannot be undertaken by the social sciences alone, insofar as the contribution of disciplines such as metaphysics and theology is needed if man's transcendent dignity is to be properly understood."[47] So we begin by turning from projects to principles.

First, the new trajectory is *analogical*. The *analogia entis* responds to the question of the "*s'indova,"* expressing the participation of all of nature and creation in the divine or transcendent, while at the same time preserving the difference: "The analogy of being is an emancipation from the tragedy of identity, which is the inmost truth of every metaphysics or theology [or ecological philosophy], whether dialectical and dualist or idealist and monist, that fails to think

[45] For example, "the external 'analytic' kind of knowledge…is not simply rejected but placed within the prior and deeper kind of knowledge that is interior and integrative." "The Significance of Hans Urs von Balthasar." Glory, Grace and Culture, ed. Ed Block. Mahwah, NJ: Paulist Press, 2005. P. 33. Schindler is specifically referring to Hans Urs von Balthasar, but the passage characterizes the Third Trajectory as a whole.

[46] CV 53.

[47] CV 53. By "metaphysics" Benedict is not referring to the monolith created by postmodernity's critique, which Paul Ricoeur calls "laziness in thinking, of lumping the whole of Western thought together under a single word." (The Rule of Metaphor: Multi-Disciplinary Studies of the Creation of Meaning in Language. Trans. Robert Czerny. Toronto: University of Toronto Press, 1981. P. 368). Instead, the term must be understood in the vast range of contexts in which it occurs, invoking a supple sophistication that acknowledges various forms of critical reflection within larger explanatory backgrounds. The rejection of some metaphysical thinking does not entail the wholesale rejection of all metaphysical thinking.

analogically."[48] It is also the emancipation from ambiguity, as it allows for multiplicity in unity, a "symphony" of truth that reveals "the unity of men with God, which … brings about the unity of men with one another, unity with the whole of creation, and thus unity between the Creator and creature".[49]

Second, it draws upon *both metaphysics and phenomenology*. These are not juxtaposed side by side, nor are they merged, nor are they compromised by taking bits and pieces of each. Their relationship needs to be understood in a different way, with metaphysics unfolding structurally within the experience of acting persons and the wider dramatic setting of encounters with other persons and the natural world. Each maintains its own integrity, but each requires the other. Third, the ontological dimension provides the wellspring for the transcendent dignity of persons ("beyond the social sciences alone") upon which solidarity depends; its *personalist anthropology* is sufficiently multidimensional to include within it both substantiality (the notion of a universal human nature), and relationality (an appreciation of the uniqueness of each and every human life, its individuality determined by its relations with similarly unique others). It requires, in other words, an account of the human being as a being in time, but in such a way that the two dimensions are held together rather than eclipsing either the historical or the ontological edge of the pole.[50]

Nature, too, comprises substantial beings, not merely resources for consumption or momentary unities in energy, matter, or information fields: "The earth has a dignity of

[48] Hart, p. 245. Because the analogy of being is so important to the Third Trajectory, one of postmodernity's biggest critics of it must be mentioned: Gilles Deleuze, who sees analogy as finding correspondences between similarly constructed worlds and hence providing the excuse for philosophies of identity. He instead approves of Duns Scotus's univocity of being. But Hartnotes that Deleuze's understanding of analogy is "excruciatingly unsophisticated…and his characterization of analogy – the equivocity of being, the univocity of attributes – entirely misrepresents the tradition, according to which neither being nor attributes are equivocal or univocal: both are analogical" (p. 62).

[49] Benedict XVI. The Nature and Mission of Theology. San Francisco: Ignatius Press, 1993. P.84.

[50] Tracey Rowland. Benedict XVI: A Guide for the Perplexed. London: T & T Clark International, 2010. P. 93.

its own,"[51] said Benedict XVI. Our relationality extends to those beings: "The book of nature is one and indivisible," and our duties to both persons and the environment are inseparable, even if asymmetrical. His claim that "every violation of solidarity and civic friendship harms the environment, just as environmental deterioration in turn upsets relations in society"[52] is not mere rhetoric. Whenever nature is pitted against persons, both suffer. Though the person transcends nature, this transcendence is not an opposition. Indeed, the point is that to oppose them is inevitably to lose the transcendence of the person. According to the logic of the analogy of being, it is precisely a safeguarding of the transcendence of the person that allows a relation to nature as a genuine other, with its own integrity and proper dignity.

The reason for this interrelatedness brings us to the fourth feature of this trajectory: that it sees reality as a *gift.* God is the Giver, and since he is Creator of all, we are ontologically, not just biologically, related to all creation, children of one Father. Balthasar said that "to be a child is to owe one's existence to another"[53] – that is, to be dependent. The contempt for children reviewed earlier is partly contempt for this dependency, a dependency that mirrors the ontological status of every created being.

The same contempt, with its relentless demands for contraception and abortion, also evinces a lack of a generative hope for the future; the future looms up as a competition over scarce resources. Attempts to mitigate this view outside the Third Trajectory inevitably fall short in some decisive respect. Ecologist Hans Jonas, for example, bases man's responsibility toward future generations on an "ontology of biology," which *appears* to value the child – he says that "the archetype of responsibility is the care of the parent for child," but in reality does not: "The ultimate ground for our duty to our children, however, is not our ontic relationship to them in particular, but our duty to humankind as such: to the idea of Humanity which is part of the idea of

[51] Benedict XVI, "Address to the Bundestag," Berlin, 22 September 2011.

[52] CV 51. "If there is a lack of respect for the right to life and to a natural death, if human conception, gestation and birth are made artificial, if human embryos are sacrificed to research, the conscience of society ends up losing the concept of human ecology and, along with it, that of environmental ecology."

[53] Hans Urs von Balthasar, Unless You Become Like This Child. San Francisco: Ignatius Press, 1991. P. 49. of purposive nature."

purposive nature.[54] The Third Trajectory instead sees the child not as the bearer of an abstract "idea of humanity" but as a *gift*, a concrete, loved, particular reality. Abstract ideas do not have individual faces; what Dante saw in his final vision was a face, and there may be no better image for the Third Trajectory. For it is through *face-to-face encounter* – which Balthasar says begins with "the Smile of the Mother" – that the child first awakens to the mystery of reality which is not identical with ourselves, and to an initial vision of what is true, beautiful, and good. Beyond that original awakening, encounters with the world continue to open us to what some Second Trajectory ecologists, drawing on Emmanuel Levinas, see as a "face" in nature. But despite speaking of the face's "unique openness," Levinas's "face" is as abstract as Jonas's: "precisely as abstract human, disengaged from all culture,"[55] even more deeply abstract, he says, than the abstraction of the general from the particular.

Here, instead, the face points to something different. The "giftedness" of creation means that nature is not a social construct, even if language about it is to some extent, but a shared reality that exists prior to our thoughts about it. Third Trajectory thinkers agree with postmoderns that language cannot "capture" the whole of reality, and that neither utility nor biological holism exhausts its meaning. They differ, however, on what that means. For postmoderns, there is no truth to the matter - ambiguity goes all the way down.[56] For the Third Trajectory, the face is unique and precious, and at the same time a window whose "inexhaustible depth…appears on its very surface."[57] We cannot know exhaustively, but what we can know, we can know truly, or as Pope John Paul II said, "The irreducible

[54] Lawrence Vogel, "The Outcry of Mute Things: Hans Jonas's Imperative of Responsibility." Minding Nature: the Philosophers of Ecology. Ed. David Macauley New York: The Guilford Press, 1996. P. 176.

[55] Emmanuel Levinas. Basic Philosophical Writings. Eds. Adriaan T. Peperzak, Simon Critchley, Robert Bernasconi. Bloomington, IN: Indiana University Press, 1996. P.58.

[56] Under the "hermeneutics of suspicion" says David Bentley Hart, "the freedom, the name, even the face of the other appear with terrible fragility…. a critical vantage that claims to stand beyond all narratives, with the privilege of concluding all discourses where they threaten to overflow their assigned places, subjects the face of the other to its speculative iconoclasm. " Hart, p. 430

[57] Hans Urs von Balthasar Presence and Thought: An Essay on the Religious Philosophy of Gregory of Nyssa. San Francisco: Ignatius Press, 1995. P. 155.

signifies that which is essentially incapable of reduction, that which cannot be reduced but can only be disclosed or revealed.

Lived experience essentially defies reduction. This does not mean, however, that it eludes our knowledge."[58]

We can now return to Pope Benedict's "category of relation." The First Trajectory had extrinsic **contractual** relationships, and the Second, besides its physical/biological/evolutionary relationality, explains other kinds of relationships as **choices** willed by the individual. [59] These will remain essentially extrinsic and, finally, arbitrary, if they are bound not by truth or goodness, but only by a "freedom" free to do the opposite for any reason or no reason, disintegrating into caprice. Benedict XVI suggested instead that **covenantal** relationships could be formed with both others and creation. It is the whole self that enters into a covenant, not merely a part. Like its prime example, marriage, the form of the covenant "extends through all the levels of life, from its biological roots up to the very heights of grace,"[60] and so it can integrate and order contracts and choices. At the same time, it makes promises for a future it faces not in fear of scarcity, but in hope.

In ecological thinking, the Third Trajectory is only now coming into being, awakened by the growing awareness that the first two trajectories are not sufficient. Operating through dualism, monism, or a dialectic of ambiguity, is too limiting. The suggestion is not to reject instrumental reason, interconnection, or dialectic; nor is it to turn one's back on sustainability, restoration, or conservation. Sustainability, for example, involves more than

[58] Karol Wojtyla. "Subjectivity and the Irreducible in the Human Being" in Person and Community: Selected Essays. New York: Peter Lang, 1993. Pp. 215-216.

[59] In ambiguity, a state without the light of the true, the beautiful, and the good as both ends and the means by which we attain to those ends, "choice" becomes the ultimate arbiter. David Bentley Hart asks how such a position allows for any morally credible distinctions between, for example, a hospice and a death camp, "except through a willful and ever more hyperbolic insistence on certain political preferences no longer susceptible of justification, nor even particularly compelling" (Hart, p. 72)

[60] Hans Urs von Balthasar, The Glory of the Lord I: Seeing the Form. San Francisco: Ignatius Press, 1982. P. 27.

insuring that we can continue consuming into the future. Though our natural resources are limited and finite, we have a need for meaning that transcends the material; only the infinite will suffice. Solidarity, which requires the participation of everyone involved, concerns more than merely overlapping interests and diverse perspectives; it involves a *reversal*, a Copernican revolution, or better, a Dantean Turn. After Dante's "flash," he did not simply collapse back into what he was before; he looked outward from a "God's-eye view," still limited by his creaturely nature, but recognizing that the multiplicity of perspectives find a real unity in "the Love that moves the sun and other stars."

The Third Trajectory does not necessarily promote any specific ecological practices. It draws on every other level and every other ecological method and strategy, not as something extra or added on, but as that which radiates the light by which the others are seen. Something Benedict XVI said about the Church finds an analogous echo in the Third Trajectory: "The Church does not have technical solutions to offer," but rather points to the truth of human persons and their dignity and vocation, for "without truth, it is easy to fall into an empiricist and skeptical view of life, incapable of rising to the level of praxis because of a lack of interest in grasping the values — sometimes even the meanings — with which to judge and direct it."[61]

Seeing the whole of creation as an analogical, participatory, personalist gift within which we are in communion with all other beings illuminates the experience of wonder and gratitude for the natural world; provides for genuine hope for the future; and opens the door to a solidarity that is relational in the deepest sense, one which transcends the anthropocentric/ biocentric divide and whose end, to borrow from Martin Luther King, "is reconciliation… redemption…[and] the creation of the beloved community."[62]

[61] CV 9.

[62] Martin Luther King, Jr. "The Role of the Church in Facing the Nation's Chief Moral Dilemma." A Testament of Hope: The Essential Writings and Speeches of Martin Luther King. Ed. James M. Washington. San Francisco: HarperCollins, 1991. P. 140.

PART FOUR

A Metaphorical Code

Comparing the trajectories is not an academic exercise, nor is Third Trajectory solidarity an idealistic notion. It is realistic. Consider the gold rush of developers that generally follows those attracted to a place by love of natural beauty. Soon that beauty is being loved to death; for instance, massive erosion follows building huge houses on hillsides where houses should not be built. A pitched battle ensues: thousands of pages of regulations are written to rein in what is seen as environmental destruction, regulations that are often circumvented and lawsuits proliferate. But the law is combative by design, worsening antagonisms. Conflict resolution and mediation have only limited effect: disputes arising from misinformation can be corrected by dialogue; disputes on interests can be negotiated in trade-offs; but disputes about basic principles, such as human dignity or the rights of species to their habitat, cannot be resolved by compromise. There must be a transposition to a wider framework which gathers the antagonists into a greater vision, an end that transcends their differences. This does not mean an infinite regress into an endless series of meta-frameworks, because although there are relative goods, goods like reconciliation, redemption and community are not merely choices in a dazzling and infinite array of ultimately arbitrary possibilities, but are needed by and common to all. All humans, and all creatures, ultimately share a common destiny: as the Catechism of the Catholic Church says, "There is a solidarity among all creatures arising from the fact that all have the same Creator and all are ordered to his glory" (344).[63]

People do not live abstract or isolated lives, but in a community with others extending backward and forward in time, a handing on and a handing down. That is, people live in a tradition:

Perhaps more effectively than any before him [Alisdair MacIntyre] has demonstrated the need for broadening the concept of a tradition to include much more than just

[63] Ecology and Catholicism have this in common: that unlike some academic disciplines, they are constrained by reality. Both begin with real facts and events: the "scars that mar the face of the earth" in Benedict's words, and the fact of natural law, the Incarnation, and the extension of the Body of Christ in His Church.

timeless, spaceless doctrinal principles, so as to include the time- and place-bound practices which embody and are directed towards the achievement of the principles. He has also emphasized the importance of "masters," or "scholar-saints" within such a narrative tradition, in whom there is found the "perfect synthesis of thought and grace," and to whom the responsibility of resolving the crises within the tradition falls….[and] Balthasar consistently emphasized the importance of scholar-saints as bearers and developers – the masters –of the tradition.[64]

As an example of a tradition lived out as a marriage of principles and practices in which master teachers are crucial, one that might serve to illustrate Third Trajectory environmental solidarity, we turn to the world of navigation. We begin with practices.

Instrument Navigation

In coastal navigation, within the sight of shore, sailors find their way much as they do on land: by orienting themselves to things they see, like lighthouses or other markers. The navigator takes "bearings," or finds the compass angle from fixed objects on the land, then draws lines of position on a chart. Where they cross, there you are.

But on the open ocean, surrounded by 360° of horizon, different ways of finding one's location are needed. Since there are no fixed objects on the ocean, celestial bodies are used. Bearings cannot be taken from objects as distant as the stars, sun, or planets, because the compass, which measure in degrees, is too clumsy. The instrument used in celestial navigation, the *sextant*, measures in degrees, minutes, and seconds, with 3600 seconds in a degree[65]

Looking through the sextant, with its ingenious dual reflecting mirrors and half-mirrored, half clear horizon viewer, the navigator "brings down" the celestial body until it appears to touch the horizon, then reads off the angle. The

64 Tracey Rowland, Culture and the Thomist Tradition: After Vatican II. New York: Routledge, 2003, p. 123-124.

[65] The sextant does not give a bearing, known as an azimuth when referring to a celestial body, but provides information used in finding the azimuth.

stars essentially stay in the same place – that is why they were known as the "fixed stars" throughout history – except they rise and set. The sun, moon, and planets move, but predictably, and so, with the aid of a chronometer to find longitude and almanacs that note the Geographical Position (precisely where each body is at every second of every minute of every hour of every day of the year), lines of position can be drawn from two or preferably three celestial bodies, and, again, where the lines cross is where the navigator is.[66]

The first thing one notices is that instrument navigation is literally anthropocentric**:** it relies on a pre-Copernican vision of the sky. The earth is the unmoving center around which the sun, moon, stars, and planets turn. The human being is actually the precise center – the "zenith" is the point directly over his head.

The second thing one notices is that it is objective in the dualistic sense. The human subject is split off and disengaged from the object in a mechanical process. He himself becomes like a computer. In fact, now GPS – the Global Positioning System – does all the work. The navigator is not needed except to input data; despite being the central measure, *the person vanishes.*

Finally, it reduces nature to quantitative data, to which one relates by calculative reason alone. The horizon that the sailor experiences is reduced to a geometrical line. All else is stripped way – as in Galilean science, all "secondary qualities" (sounds, colors, the feel of the wind) are meaningless. All that matters is an abstract construct against which to align the stars, which are reduced to mathematical points; *nature vanishes.*

With its quantitative reductionism, disengaged dualism, and anthropocentrism, all of which eventually lose both nature *and* persons, instrument navigation could serve as a metaphor for the First Trajectory, which adopts a rationalistic approach to nature, using mathematical models and statistical

[66] Instrument navigation is based on spherical trigonometry and solving the "navigational triangle," a triangle on the earth's surface with the Pole as one corner, the Geographical Position (GP) of the celestial body as another, and the sailor's Assumed Position as the third.

methods to evaluate risk and to solve environmental problems. The First Trajectory – which focuses on such things as resource management, carbon offsets, cap and trade, recycling, all of which might be good in themselves – remains at the technical and economic spheres where the first conflicts arise, conflicts which cannot be resolved at their own levels because they reflect underlying ethical and philosophical differences.

Wayfinding: A First Look

The second method of celestial navigation is called "wayfinding." While the development of instrument navigation was proceeding in the West, the people of the South Pacific had been navigating with confidence over thousands of miles of nearly empty ocean using no compasses, charts, or sextants. This navigation is based on a knowledge of ocean swells, which could be sensed by the navigator's body; of bird flight, wind, and cloud patterns; of the relative positions of islands and coral reefs; and more. Something more different from navigational trigonometry with instruments can scarcely be imagined.

Captain James Cook (1728-1779) was the first Westerner to note the astonishing fact that wayfinders could find their way over such great distances with such accuracy: "How shall we account for this Nation spreading itself over this vast ocean? We find them from New Zealand to the South, to these islands to the North, and from Easter Island to the Hebrides."[67] What the wayfinders accomplished seemed almost impossible. The navigators lacked instruments for quantitative measurement and charting, but they had a different kind of knowledge: they knew the sea and sky the way we know the faces of the people we love. An interview with Nainoa Thompson, the modern-day navigator of the traditional vessel "Hokule'a," expands on this: The modern instrument navigator inhabits a world of abstractions. To find his place in the world, he reduces a star's altitude to a number, then consults his astronomical tables, does some math, and plots his position on a chart. He then forgets his navigational tasks until it's time for another peek through his sextant.

[67] James Cook. The Journals of Captain Cook. Ed. Philip Edwards. London: Penguin Books, 2003. P. 537.

But the noninstrument navigator never ceases to regard nature. The world all around offers a continual "heads up display" – of stars, swells, and wind. Hokule'a's navigator, Nainoa Thompson, constantly senses the direction of his vessel – in the soles of his feet, in the feel of wind on his cheek, in the sound of the rushing wake. He is continually, as he describes it, "*in the navigation***."**

"Navigation is about understanding and watching nature," Nainoa once told me, "everything you need to guide you is in the ocean, but you need to be skilled enough to see it. It took many years to learn the ocean's many faces, to sense subtle cues – the slight differences in ocean swells, in the colors of the ocean, the shapes of the clouds and in the winds."[68]

Instrument navigation requires a reduction of the vastness of our experience of the world to mathematics, using a Ptolemaic latitude-longitude grid, an imaginary net laid over the planet.

Wayfinding, on the other hand, requires an intimate *relationship* with all of nature, an openness to all that is presented to us by the world.

This natural relationality is a picture of much of the Second Trajectory. The metaphor reminds us of the direct connection between ecology and a relational and phenomenological methodology, one which will encounter nature not simply in the abstraction of general principles (for example, examining many different birds and then eliminating the unique differences among individuals in order to come up with a list of universal features that apply to *any* bird); instead, the *particularities* are what is crucially important (how is *this* individual seabird acting at *this* particular time) and will consider all aspects of nature at once. Similarly, in environmental decision-making, the particularities of a situation cannot simply be reduced to an abstract model or to general solutions chosen for immediate efficacy; as many aspects and contingencies of the situation as possible must be considered. Otherwise there is the risk of pernicious

[68] Sam Low, "Star Navigation." Soundings. <http://www.samlow.com/sail-nav/starnavigation.htm>. Emphasis added.

unintended consequences as well as the possibility that what is technically feasible or economically efficient will be socially or ethically unacceptable.

There is more to the wayfinders' practices than being attuned to nature. The radicalness of wayfinding "shocks us with its independence of our technology," said Harriet Witt-Miller. "What really threatens our view of the universe is the complex array of totally unrelated inputs… that the wayfinder weaves into a picture of his position," especially because these phenomena "don't lend themselves to precise measurement and, because they're of different orders, don't allow like-to-like comparison. Yet measurement of comparable things is essential to classical science."[69] However, wayfinders are not of interest because of a romantic or nostalgic desire to hold up a noble "state of nature," a more "primitive" and therefore somehow more "authentic" way of life. It would be a mistake to consider wayfinding as pre-scientific, a non-technological precursor to instrument navigation. Instead it is qualitatively different.

Consider the primary method of voyaging from one island to another, *etak*. The navigator learns the "sidereal compass," a very intricate system of star trajectories that depends upon their rising and setting points around the circle of the horizon. Embarking on a voyage from island A to island B, he chooses another "reference island," his "etak island," as the locus point of the bearings of the converging star paths and the islands A and B. Even if none of the three islands is in sight (and the etak island is usually very far out of sight), the navigator knows under which star path the etak island lies when visualized from his starting and ending points, and so can express his journey as the movement of the etak island from one star to the next, as if it were being passed along successive beams of light. It is as if the island of departure were moving "farther and farther behind while the one towards which you are heading is…drawing closer," while you yourself remain still. [70] This is a complete reversal of

[69] Harriet Witt-Miller, "The Soft, Warm, Wet Technology of Native Oceania." Whole Earth Review, Fall 1991, p.69.

[70] Thomas Gladwin, East is a Big Bird: Navigation and Logic on Puluwat Atoll. (Cambridge: Harvard University Press, 1970), p. 182.

the Western construction in which the navigator sees his boat as moving among stationary islands; here the islands move and the boat is stationary. Compare it to sitting in a train and looking out the window; it seems that you are at rest in relation to distant mountains, while "nearby houses…flash backwards between you and the mountains."[71] Einstein used a similar example to illustrate relativity. Etak, then, is a polydimensional system that involves both direction and time, and therefore movement. The etak concept of moving islands is an essentially dynamic one that is not easy to fit into the framework of the abstraction that to us is so familiar – the static, two-dimensional chart.[72]

Whether or not they use technology *as we know it*, they still use *technique* to attain their ends.[73] The intention in discussing both awareness of nature and etak is to expand the horizons of *technē,* seeing it from a different aspect—indeed, an aspect closer to its original, Greek meaning.[74]

Reductionists may dismiss whatever cannot be calculated or quantified as subjective, but the wayfinders' method of navigation can by no means be called subjective in the dualistic sense (in which "subjective" means without reasonable warrant, emotional, or private). It turns to the person, the subject, not as *standing against the objective*, but *as subjectively appropriating the objective.* Reductionists claim that the subject is irrelevant; pure science would require the subject to be left out of the picture. But for wayfinders, the person's experience is of central importance: everything comes into play, from the navigator's senses, to his intellect, memory, the entire lived reality of what is going on around him, the whole,

[71] Gladwin, p. 183.

[72] David Lewis, We, the Navigators: The Ancient Art of Landfinding in the Pacific. Ed. Sir Derek Oulton. (Honolulu: University of Hawaii Press, 1994), p. 184.

[73] Moreover, despite its apparent technological superiority to wayfinding, instrument navigation is extremely limited. Star sights can only be taken during the brief period of time between civil and nautical twilight, when the horizon is still visible; the method doesn't work at all if the sky is overcast. GPS works any time of the day or night, but GPS is only as reliable as the unit's batteries or other power source, and depend upon working satellites.

[74] Technē originally meant not, in the first place, the imposition of subjective will (technology in the modern sense), but a fundamentally receptive knowledge that respected the integral meaning of the object in its production or achievement of a desired end.

integrated "picture" of the natural world at each moment, and his own attention as it shifts from one star to the next as they rise and set in turn. The solidarity paradigm will not find its warrant in the form of the reasoning of the scientific method alone. It is rooted in a more inclusive view of human reason – reason as "an open gaze."

It is, then, the Third Trajectory which the wayfinders best embody, for the wayfinders suggest a way of life that goes beyond a purely mechanical understanding of nature; beyond biocentric or ecocentric identity; and beyond a Nietzschean perspectivism into a covenantal solidarity with nature and with others. The wayfinder, like the ecologist at the level of the solidarity paradigm, is free to use calculative reason and various techniques as part of his overall method, "catching up" and transforming the other spheres beneath that paradigm. We turn now from practices to principles, to questions of what we take to be real, how we understand persons, and how means and ends are related.

Regarding ***ontology***, what they take to be real, the wayfinding navigators had no use for a perspecti*vism* in which there is neither expectation nor possibility of any integrated view, an "*e pluribis*" without hope of an "*unum*." Solidarity is harmony through difference, based on shared attraction and openness to a reality greater than oneself, a reality like a deep field of stars. The reference is to the beautiful Hubble photographs of deep space. What look like black empty sectors are revealed to be full of stars when the telescope is focused on them, and the deeper we look, the more we see; reality is not ultimately ambiguous, but rather infinitely deep. [75] The wayfinders indeed saw the ocean from different perspectives, but they had real islands to sail to, and though one may "play" basketball or baseball, one does not "play" sailing – navigational mistakes are often not a matter of mere rule-breaking, but of life and death. We have real ecological issues to deal with: we are faced not with a reality constructed by the mind or language – however much interpretation affects how we experience the world – but one that is given to us as a gift and a Mystery we will never fully

[75] See Dante, Paradiso XXXIII, 106-114

fathom:[76]

The new ship here is fitted according to the reported increase of knowledge among mankind. Namely, she is cumbered end to end, with bells and trumpets and clock and wires, it has been told to me, can call voices out of the air of the waters to con the ship while her crew sleep.

But sleep thou lightly. It has not yet been told to me that the Sea has ceased to be the Sea.[77]

For John Paul II the person is essentially actor, not merely a subject or object. It is the person who brings together the instrumental logic of the first trajectory intertwining multiple perspectives for the common good, based on shared attraction and openness to a reality that cannot be exhausted by any vantage point, require a deeply personal experience of friendship and community rooted in a specific ***anthropology***: "persons" are neither solely atomistic individuals, nor merely social beings, but by nature they are "both/and" – "human-beings-in-community." The etymology of "community" breaks the word down into *com* and *unis* (together in unity), or perhaps apocryphally, *munus* or gift. We are indeed related, but as more than nodes in a network; we are microcosms, unique wholes who at the same time exist only in relationship to other human persons, and to the rest of creation; the relationality is not merely natural, but ontologically constitutive. In it, we are gifts to each other.[78]

Beyond the community as a whole, there are the "masters" Rowland spoke of earlier in this section. The early wayfinders looked upon navigation not merely as a technique of getting from one island to another, but as a *way* – a combination of philosophy and religion, a culture, a manner of life. To attain the full status of the navigator, the student

[76] The word "unfathomable" comes from a sailing term. To "fathom" is to measure the depth of the ocean, originally using rope with knots tied every six feet – equivalent to the ancient measure of the outstretched arms of a human being. So something unfathomable is deeper than can be measured by human instruments.

[77] Attributed to Rudyard Kipling. "The Sea is Still Master." The Economist. 12 December 1997.

[78] One modern Wayfinding voyage was named Kapu Na Keiki, "Hold Sacred the Children." Children are not competitors in the battle for scarce resources, but the fruit of the gift of love.

spent years in apprenticeship and then was initiated by a master navigator.

Navigators were held in as high esteem – or higher – than the leaders of the societies. Instrument navigation can be done by one person acting alone, in solitary, learning the method from a book. In fact, GPS has replaced sextants, and anyone with no knowledge of a small, unique island, no solidarity with its people, can get to it. Wayfinding could not be learned alone. To become adept at wayfinding required many years of training, and not everyone reached the point of being a fully initiated navigator.

Their method of orienting themselves spatially was based on an intimate experiential perception of their lived reality, stored in their memory and transmitted orally from generation to generation. A long and arduous process had to be gone through to acquire the vast knowledge necessary to cross vast distances on the ocean out of sight from land. The training or apprenticeship would begin around the age of 12 and often was not completed until the early thirties.[79]

The solidarity with the community is seen in the need for the navigator to learn to rely on other people, their experiences both "objective" and "subjective," their memories, and their perspectives, including the perspectives of those who live on other islands, hundreds or even thousands of miles away, for the purpose of attaining a shared goal – the ability to enter into community for trade, friendship, kinship, and more – with the people of the far-flung islands. Solidarity is part of the very identity of the navigator, a constitutive part. And the community extended not just to distant islands but to a continuity, like the "communion of saints" of the Catholic faith, with those who had gone before: the people the wayfinder relied upon lived not only across space but across time. The traditions of the living and the dead, of one's contemporaries and one's ancestors, were among the experiences transmitted

[79] Christopher Cogswell and Ulrik Schiøtz, "Navigation in the Information Age: An Exploration of the Potential Use of Geographic Information Systems (GIS) for Sustainability and Self-Determination in Hawai`i." California Institute of Integral Studies, 1996. <http://www.hawaii-nation.org/gis/4-history.html>. Section 4.1.2.

"generation to generation."[80]

It is the Master Navigator who best expresses this communion. Mau Piailug was known as "The Last Navigator" because he was the last traditionally trained wayfinder, initiated at the last traditional ceremony in 1951 on the island of Satawal.[81] When asked how he had the courage to sail over thousands of miles of empty ocean, he replied: "I have no fear when I am at sea because I have faith in the words of the ancestors. This faith is what we call courage. With this courage you can travel anywhere in the world and not get lost. Because I have faith in the words of my ancestors, I am a navigator."[82] Dante spoke of his wayfaring being guided by the constellations; Benedict XVI specified that the "saints are, so to speak, new Christian constellations."[83] All are called to be saints, but as we wait in hope we can look to those who achieve here and now the "synthesis of thought and grace," the master navigators of the earthly life.

Ends and Means

Dante created a wonderful image of the reversal of the normal order in his arrow which "strikes, flies, and is released from the bow," [84] illustrating that action is determined by its *telos.* Wayfinding's practices and the practices of ecological solidarity are shaped by their end; the relationship of ends and means is at the heart of the understanding the Third Trajectory.[85]

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[80] Benedict XVI repeatedly refers to our duties to future generations: "Solidarity is first and foremost a sense of responsibility on the part of everyone with regard to everyone," and "The responsibility is a global one….we must recognize our grave duty to hand the earth on to future generations" (CV 38, 50).

[81]He died in 2010, but he spent years teaching a new generation, beginning with a 3,000 mile voyage from Hawaii to Tahiti sailed without instruments

82 Decline and Renaissance of Canoe Voyaging" Te Ara - the Encyclopedia of New Zealand, http://www.teara.govt.nz/en/canoe-navigation/4

83 Joseph Cardinal Ratzinger, The Spirit of the Liturgy. San Francisco: Ignatius Press, 2000. P. 111.

84 Paradiso II, 23-34, is used to express speed, but also the reversal described, which is a theme throughout the poem.

[85] Do we understand the end, the good, as the object of our pursuit, as the cause of it and hence something which changes us as we move toward it, or both? See D.C. Schindler's discussion of the dual nature of the good in Plato's Critique of Impure Reason: On Goodness and Truth in the Republic. Washington: CUA Press, 2008. Chapter Two.

Ends, Spaemann states, can neither be understood nor be defended from within a hypothesis- centered technological and scientific civilization. The technological civilization, he argues, is characterized by the "consistent and radical distinction between ends and means." Such a civilization focuses on what it claims is an objective description of reality and upon the evaluation of means, but can no longer determine meaningful and normative ends of human action. The scientistic civilization is therefore, as Spaemann reasons, "designed as a grand universal system of means for arbitrary ends."[86]

> Many people would say that it does not matter which method, which *means*, is used, instrument navigation or wayfinding; in either case, the goal, the *end*, is accomplished: one successfully sails from island A to island B. Yet a Third Trajectory thinker would disagree with this assessment. He would say the two different means do not lead to the same end, that the means is more important than supposed; the end does not justify the use of *any* means, and the very *meaning* of ends and means is related. Mahatma Gandhi provides the cogent example of a person desiring a watch:
>
> If I want to deprive you of your watch, I shall certainly have to fight for it; if l want to buy your watch, I shall have to pay you for it; and if I want a gift, I shall have to plead for it, and, according to the means I employ, the watch is stolen property, my own property, or a donation. Thus we see three different results from three different means. Will you still say that means do not matter?[87]

What is the distinction that Gandhi is making? That one cannot consider the means as external to the end, as something ultimately indifferent to the end, for the goods we seek are not merely the objects of our pursuits, but change us. We *become* what we behold, what we pursue. In his example, the means are not

[86] Holger Zaborowski, Robert Spaemann's Philosophy of the Human Person: Nature, Freedom, and the Critique of Modernity. Oxford: Oxford University Press, 2010. P. 92.

[87] Gandhi, M.K. "Brute Force." Hind Swaraj, or Indian Home Rule. 1909. <http://www.mkgandhi.org/swarajya/ch016.htm>.

merely mechanically related but constitutively related to the end – they are "caught up in" and help constitute the end.[88]

Neither a machine-like nor biologically holistic connection is sufficient for understanding solidarity, which is grounded in a different kind of relationship, in the reality of *communio,* a relationship characterized by love. Consider Gandhi, whose "community of true neighbors" came together in solidarity to solve problems and face crises – in his case, not navigational or ecological problems but the self-determination of the people of India. This solidarity was not simply a philosophical theory or an abstract idea, but *a way of being* that necessarily involved love and community. His means was *ahimsa,* usually translated nonviolence,[89] and the result would not have been the same had he used the means of violence instead; *the means must necessarily correspond to the desired end:*

The means may be likened to a seed, the end to a tree; and there is just the same inviolable connection between the means and the end as there is between the seed and the tree….They say, "means are, after all, means." I would say, "means are, after all, everything." As the means so the end…. [90]

Means correspond to ends, but at the same time the ends, as Spaemann puts it, are not "arbitrary," of indifferent value. The wayfinding navigator, who is not merely seeking the most efficient way to get from island A to island B, is intimately connected with the natural world around him, with a "community of true neighbors" extending across generations, and free to use all methods,

[88] David L. Schindler says a mechanical understanding "is that of the machine. The intelligibility is that of discrete entities which are identifiable to one another simply in their externality." David L. Schindler, Heart of the World, Center of the Church. Grand Rapids, MI: Wm. B Eerdmans Publishing Co., 1996. P. 193. In contrast, he says, "the identity of all being, of each and every being and of every aspect of every being, is realized only in relation, that is, the relation which in the primary sense is communio…this relational identity which is proper to love [must] be affirmed in principle…of every entity and every aspect of every entity in the cosmos" (P. 199).

[89] "Nonviolence" is too vague a term with which to translate Ahimsa. Even apart from the rich and deep theological connotations, which Gandhi said came from his reading of the New Testament, on purely practical level it connotes among other things "selective coercive pressure through refusal." Nirad C. Chaudhuri, Hinduism. London: Chatto and Windus, 1979), quoted in Milbank (1990).

[90] R. K. Prabhu & U. R. Rao, editors. "The Gospel of Sarvodaya," The Mind of Mahatma Gandhi, Ahemadabad, India, Revised Edition, 1967. <http://www.mkgandhi.org/momgandhi/momindex.htm> .

is analogous to the ecologist who seeks to solve problems and to relate to nature and other human beings through the most inclusive paradigm, that of solidarity. The end he seeks is very much in line with Martin Luther King's vision of a "beloved community" marked by reconciliation, and is clearly tied to the means he uses to get to that end, for "there exists an intimate bond between solidarity and the common good, between solidarity and the universal destination of goods, between solidarity and equality among men and peoples, between solidarity and peace in the world."[91]

Conclusion

Essentially, a Third Trajectory ecologist will be a Master Navigator. For the Wayfinders and for these ecologists, the key to solidarity and to solving problems together is to see that we share an end – a common destiny, a common good – which can only be reached by means properly oriented to that end. Reconciliation with oneself, with nature, and with others, turning opposers into friends, is born in the trust to enter a conversation with others, mutual openness to various viewpoints, and the courage to face the facts one stands before without reducing them to one's prior assumptions. Ecological projects are best begun not by filing lawsuits, not by drawing a line in the sand over antagonistic positions, not from preconceived agendas or ideologies, but with an agreement on a judgment about reality, a vision of the desired end.

Wendell Berry said, "We know enough of our own history by now to be aware that people exploit what they have merely concluded to be of value, but they defend what they love."[92] If we love this land, this child, this community, this forest, this way of life, that love will attract and direct us, in harmony with others who share our vision.

The same is true of wayfinding: "Putting out into the deep,"[93] embarking on a voyage that leaves the land behind, requires at its heart the

[91] Compendium of the Social Doctrine of the Church. Pontifical Council for Peace and Justice. Libreria Editrice Vaticano, 2005. #194.

92 Berry, p. 41.

93 John Paul II. Novo Millennio Ineunte. 6 January 2001.

vision of a landfall over the horizon. As one navigator, who calls wayfinding "a way of organizing the world," as well as a "model for living" puts it: Our ancestors began all of their voyages with a vision….Once you have the vision of a landfall over the horizon, you need to plan how to get there, how to navigate, how much food you need. You must evaluate the skills you need to carry out the plan and then you must train yourself to get those skills. You need discipline to train. Then, when you leave land, you must have a cohesive crew – a team – and that requires *aloha* – a deep respect for each other. The key to wayfinding is to employ all these values. You are talking about running a ship, getting everybody on board to support the intent of the voyage, and getting everybody to work together. So it's all there - vision, planning, training, discipline and aloha for others. After a while, if you apply all those things, it becomes a way of life…. We've learned a lot during these voyages – the power behind shared vision, the energy generated through collaboration, the continuing thrill of exploration and discovery and the joy of kinship."[94]

This is truly the image not only of wayfinding and the solidarity needed for environmental projects, but of the religious life. In Dante's final vision of the face of Christ, he underwent the Great Reversal, able to look back at the spheres below from an entirely new vantage point, one in which will and intellect were one, where love is effortless.[95] Here everything comes together: technique, skill, discipline, reason, experience, respect, friends, family, and all of creation are reconciled. Then, as the wayfinders say, you just point the boat in the right direction … and the island comes to you.

[94] Chad Baybayan. Interview. Polynesian Voyaging Society.<http://pvs.kcc.hawaii.edu/index/founder_and_teachers/chad_baybayan.html>. Emphasis added

[95] Dante, Paradiso XXXIII lines 143-145.