

Towards an Epistemology  
for the Ecovillage Designer:  
“Place-making, Co-worlding, Eco-  
poiesis”

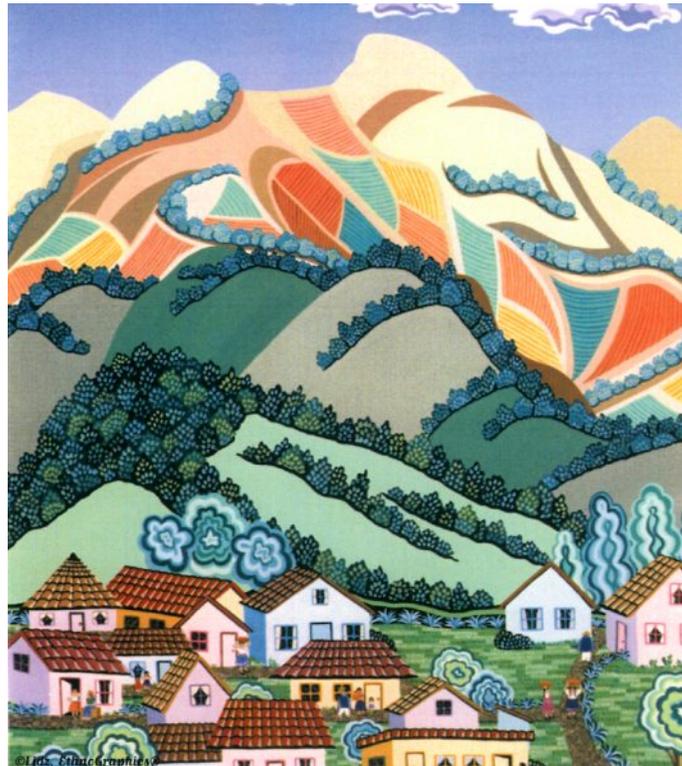
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“For it is a Gnostic way of dynamic living that must be the fulfilled divine life on earth, a way of living that develops higher instruments of world-knowledge and world-action for the dynamisation of consciousness in the physical existence and takes up and transforms the values of a world of material nature.”

- Sri Aurobindo, “The Life Divine,” p. 1019



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## Introduction

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This essay intends to explore the outlines of a working epistemology for “Ecovillage Designers” – *designers of sustainable human habitation systems*. This innovative group of cultural pioneers is currently experimenting with multidimensional, integrative models of ‘sustainable human habitat,’ in a diversity of scales and forms.<sup>1</sup>

Technically, “epistemology focuses on the nature, origin, and scope of knowledge. It thus examines the defining ingredients, the sources, and the limits of knowledge” (Moser, p.vii). Or, one might simply ask, “How do we know what we know?” In the context of this essay, that question may be restated: “How do designers of ecovillages ‘know’ when they’re making sustainable design decisions?”

The purpose here, then, is not so much to identify or define a static sort of *knowledge base* as it is to justify, affirm, or advocate a particular type of active, adaptive *knowing* – a particular type of ‘in-the-now’ cognitive posturing that Ecovillage Designers may adopt while guiding and informing the multifarious, omni-dimensional design decisions that constitute the nature of their craft. As such, the initial sketches of a heuristic meta-system of knowledge will be proposed – ‘meta’ in the sense of knowledge about *knowing*, not necessarily knowledge about knowledge per se. In the process of this development, the epistemic valuations – *principles of knowing* – integrated and employed by the authentically practicing Ecovillage Designer will be shown in contrast with (or an evolution beyond), the sort of “classical analytic epistemology” that came to guide and inform the construction of the highly unsustainable (though very rational) techno-industrial-settlement complex.

A proposed research program for Ecovillage Designing, founded on the new epistemology, will follow.

But first it will be useful to place this whole discussion in context. What is the practical value of investigating an ‘epistemology’ in the first place? What exactly *is* knowledge? Where does the practice of Ecovillage Designing fit along the greater

historical or evolutionary continuum? What sort of epistemic traditions *have* we inherited anyway, and what are their implications and consequences?

In order to answer these questions, to get at the core of the issue, it will be important to bring to light the essential noetic character of that unassailable (while at the same time increasingly indefensible) monolith of human achievement called – “Western Civilization.”<sup>2</sup>

### Epistemological Origins: “The Passion of the Western Mind”<sup>3</sup>

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Alfred North Whitehead said somewhere, “all philosophy is a footnote of Plato” (Preston, p.6), so any inquiry into that branch of philosophy known as ‘epistemology’ must begin in classical Greece.

Ah yes, ancient Greece – where ‘civilization’ had matured and complexified enough so that a select few of an increasingly specialized population (notably supported by a growing number of slaves) could afford to sit around and *think*: The Philosophers, exemplified by Socrates and his student Plato, were no longer bound to the exigencies of an Arcadian, idyllic, provincial, agrarian earthly lifestyle – with all its attendant ‘menial demeaning labors’ like growing food, caring for animals, caring for the land, caring for each other, etc. Instead, The Philosophers made a vocation out of contemplating in the *academe* and wandering off into the empyrean; they were, after all, *civilized* – citified people, spokespersons of a predictably ordered, precisely measured, highly idealized and stylized built human environment – with all its exact right angles and planned geometric layouts – that was an obvious improvement over Nature. So, ‘naturally,’ in unconscious confirmations of (what would come to be called) “structural coupling,” they were going to fashion a new manner of thinking that was likewise ‘an obvious improvement over Nature.’<sup>4</sup>

One of the most striking characteristics of this new way of thinking was “a sustained, highly diversified tendency to interpret the world in archetypal principles” (Tarnas, p.3) – ideal Forms and Ideas, changeless absolutes, immutable first principles, etc. These perfected images created by (the civilized Greek version of) the human mind were believed to be “actual nonphysical entities,” and were deemed to be the ultimate basis of reality – far more ‘real’ than the imperfect, vitiated imitations found on Earth. For all the pitiful earthly salamanders, for example, there existed in some transcendental realm the Ideal Form of the perfect salamander.

“[This] perspective thus asks the philosopher to go through the particular to the universal, and beyond the appearance to the essence. It assumes not only that such insight is possible, but that it is mandatory for the

attainment of true knowledge... True knowledge... is possible only from a direct apprehension of the transcendent Forms, which are eternal and beyond the shifting confusion and imperfection of the physical plane. Knowledge derived from the senses is merely opinion and is fallible by any nonrelative standard. Only knowledge derived directly from the Ideas is infallible and can be justifiably called real knowledge” (ibid, p.8).

Truth too, then, like Justice and Beauty, came in a perfected Form, and the way to attain this Truth was through the protracted rational reasoning of the philosophic mind, moving beyond the mere surface appearances perceived through the senses to a more primary, absolute, hidden, underlying essence. This was “privileged knowledge” – accessible only to the select few (and hardly of any concern to the many). By thinking in this way, The Philosophers believed they were participating in “the life divine.” Says Socrates: “This is the reason why only the philosopher’s intellect rightly grows wings: for to the best of his ability he is ever near in recollection to those things which a god’s nearness makes him divine” (Vlatos, p.77).

Christopher Preston incisively interprets the implications of this sort of metaphysics:<sup>5</sup>

“[H]uman knowledge required systematically excluding everything distinctively human about the knowledge maker. The contingencies of the human body and the different situations in which the human body found itself were regarded not as contributions but impediments to knowledge. Once those impediments had been overcome, there was in truth no longer any way to characterize knowledge as distinctively *human* knowledge at all. Knowledge was possible for humans only if they left their humanity behind. Epistemology had been given its direction, and this direction was emphatically away from particulars of the body, from the human considered as a whole organism, and from any of the details of the physical environments within which that human might dwell. Knowledge, in short, had lost its grounding” (2003, p.7).

Complementing this last conclusion, I would emphasize that knowledge had also lost its *embodiment*. Knowledge – “real” knowledge that is – was to be found somewhere ‘out there,’ distinct and separate from an earthly existence in a body, *as* a body.

Civilization, the culture of cities, was already some 2500 years old by this time. The sense of loss of grounding and embodiment had been progressively inherited and refined since the time of the Sumerians. This ‘progress’ of civilization was experientially characterized by an ever deepening, ever more complete withdrawal of civilized human

culture, and the civilized human condition, away from wild Nature and into the fortified encapsulations of fabricated, contrived, engineered and artficed built human environments. In the Greek *polis*, The Philosophers could speculate about and actually come to believe in an abstract reality external to Nature – and by extension, external to embodiment (exosomatic) and external to *themselves* – because in a very real sense they were “dwelling in a world” (Heidegger, 1962) increasingly detached and removed from that same living Nature.

The new theory of knowledge fashioned and espoused by The Philosophers was entirely a co-product of, or co-specified by – *in co-emergence with* – the physical milieu in which they dwelt and did their thinking. Nor is this surprising if one recalls one of the defining characteristics of “living systems” as articulated by Maturana and Varela (1992): namely that organisms “*co-evolve in a history of “structural coupling” with the environments in which they are embedded.*”<sup>6</sup> The organism influences and shapes the environment as much as the environment influences and shapes the organism; “organism and environment enfold into each other and unfold from one another in the fundamental circularity that is life itself” (Varela, et al., p. 217), In this view, organism and environment cannot be considered separately but are actually co-parts of an over-arching, more-inclusive supra-system that includes them both. Or, in other words, “human beings and human consciousness are so inseparably threaded throughout and pervaded by both their psychocultural exchanges and the biophysical domain of their environment that we may claim that organism and environment are not two separate systems” (Burneko, p.15). Consequently, it is not possible to isolate the cognitive potentialities of human organisms from the nature of the built environments in which they dwell and do their living – as if neuronal pathways were somehow being configured independently of everyday activities or were in some way pre-configured.

Thus, as the *polis* became incrementally detached and removed from Nature, and intentionally so, so too did the intellectualizing of The Philosophers residing in that *polis*; both were becoming increasingly separated (conceptually that is) from the natural world that was/is their origin, foundation, and source; and this separation has consequences.

Epistemology, as a philosophic product of Western Civilization, began as a complete abstraction. Then what is it good for?

### Cartesian Dualism = Cartesian Anxiety

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After the Socratics, Western philosophy's focus on 'epistemology' dimmed for a long while, until its re-ignition in the 17<sup>th</sup> century, during a period (as told by conventional texts of history and philosophy) "of intellectual beginnings and fresh confidences, and a new belief in the ability of science – armed with the discourses of mathematics and the "new philosophy" – to decipher the language of nature" (Bordo, p.1). Up until this time, during the Middle Ages and Renaissance, the "Scholastic" tradition of philosophy flourished, as the monasteries and first 'universities' produced thoughtful works of Christian exegesis, or commentaries and interpretations of "The Classics," particularly the writings of Aristotle.

In the Medieval world, there was no doubt about the origin of universal Truth, no question as to what constituted a legitimate basis for valid Knowledge – it was the Roman Catholic Church. Any claim to absolute Truth or Knowledge had to be sanctioned by the Church; thus the prosecution of Galileo in 1633 for "suspicion of heresy" for proposing that the Earth revolves around the Sun. Certainly it was this dogmatic autism, usually inflicted by repressive ideologues, that was a primary impetus for eventuating the rationalist revolution that was to follow; for, within a relatively short time-span, the "modern" Western world was to emerge in an act "of parturition from the organic universe of the Middle Ages and Renaissance" (ibid, p.100). Epistemologically, this parturition was a transition from referencing a knowledge based on religious doctrinism to a knowledge based on scientific rationality. While these two epistemic modes of inquiry are typically regarded as polar opposites, it will be shown later that both, ultimately, rely on faith.

Rene Descartes is generally given credit for being the so-called "father of modern philosophy." This is because in writings such as his *Discourse on Method* (1637) and *Meditations* (1641), he succeeded in outlining the main philosophical thrust *for the next three-and-a-half centuries*. Descartes' philosophy, as a reflection of the discourse of the

day, arose out of a profound skepticism that it is possible to be certain of knowing anything at all. This was Cartesian Anxiety. Amidst the shifting sands of a cultural context that was witnessing the waning authority of the Catholic Church – undermined as it was by the spreading influence of individualist-leaning Protestantism and the emergence of challenging discoveries in empirical science – the Cartesian program became one of desperately attempting to establish an “Archimedean point,”<sup>7</sup> a firm, immovable foundation – arrived at through self-reflective reasoning alone – upon which the edifice of pure, objective knowledge could be built. At the outset of the program, there was “the basic conviction that there is or must be some permanent, ahistorical matrix or framework to which we can ultimately appeal in determining the nature of rationality, knowledge, truth, reality, [etc.]” (Bernstein, p.8). In order to find his Archimedean point, Descartes turned his attention inward:

“I will now shut my eyes, stop my ears, and withdraw all my senses. I will eliminate from my thoughts all images of bodily things, or rather, since this is hardly possible, I will regard all such images as vacuous, false, and worthless. I will converse with myself and scrutinize myself more deeply; and in this way I will attempt to achieve, little by little, a more intimate knowledge of myself...for as I have noted before, even though the objects of my sensory experience and imagination may have no existence outside me, nonetheless the modes of thinking which I refer to as cases of sensory perception and imagination, insofar as they are simply modes of thinking, do exist within me – of that I am certain” (Cottingham, p.24, from the *Third Meditation*).

There it was: Descartes found his certainty, his irrefutable foundation, in the famous exclamation *cogito ergo sum* – “I think, therefore I am.” Continuing his meditation:

“But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, is willing, and also imagines and has sensory perceptions...I am, I exist – that is certain. But for how long? For as long as I am thinking. For it could be that were I totally to cease from thinking, I should totally cease to exist” (ibid, p.19, from the *Second Meditation*).

The question immediately comes to mind, “what about during the unconscious act of sleeping?” Did Descartes cease to exist? Or did he keep right on thinking?

In either case, as Descartes arrived at these onto-epistemological conclusions, founded as they were on the self-referencing reasoning of a neocortex languaging in isolation, he had to take the enormous, unprecedented existential leap of explicitly

denying the body as part of his “I am.” Even the logician Aristotle, in his concept of “hylomorphism,” “advanced...the concept of a substantial *unity* of body and soul by making the soul the form, or actuality, of a natural body” (Britannica, p.59, emphasis added). The Scholastics, as well, conceived the total human being as composed of “both corporeal and spiritual matter” (R. Rorty, p.52); yet “Descartes introduce[d] a rigorous distinction between *res cogitans* and *res extensa*. This distinction [was] the basis for the sharp separation of two types of quasi-substance, mind and body” (Bernstein, p.115). In so doing, “Descartes created a picture of the relationship between the human mind and the human body with which philosophy has struggled ever since” (Malcolm, p.1). Perhaps the ‘reason’ philosophy has struggled with this picture is because it is existentially, phenomenologically, and practically incoherent. This last point is saliently revealed in the next quote and subsequent analysis:

“I can doubt that my body exists; I cannot doubt that *I* exist; therefore my body is not essential to my existence” (ibid, p.3, from *Meditation II*).

And here is the self-assured, professional philosopher’s analysis of this curious statement:

“It would be useful to clarify what Descartes meant by the separateness of mind and body...As far as the *concepts* of *myself* and *my body* are concerned, *I* could exist without a body. Descartes did not mean merely that I, having dwelt in union with my body for some years, might be separated from it and yet survive in a disembodied condition. He meant that I might have existed without *ever* having had a body...The history of my thoughts, desires, volitions, emotions, and sensations might be just what it has been, even if I was, and had always been, non-corporeal” (ibid, p.5, 6).

As a 21<sup>st</sup> century designer of ecovillages, with their whole-hearted nature-encoded perspective, this argument strikes me as absurd.<sup>8</sup> The whole Cartesian program (Cartesian anxiety), in fact, seems to me bizarre and obsessive. Was Descartes really serious? Did he really believe what he said, or were there surreptitious, underlying motivations? Has the attempted resolution of the problems posed by this postulated separation between ‘mind’ and ‘body’ – this symbolic estrangement from Nature – really been the pressing concern of philosophy for the past four centuries? Then what good is philosophy?

As an initial step in refutation, one merely has to acknowledge the fact that it took 3.5 billion years of organic, biological evolution to produce a brain complex enough to cogitate such ruminations. Without a body, there would be no 'I' to contemplate, just as without an 'I,' body would be unknown. "[M]ind without matter cannot exist; matter without mind can exist but is inaccessible. Transcendent deity is an impossibility" (Batesons, 1987, p.6). Of course, we're using an 'evolved' epistemology here, an updated access to knowledge referencing a more currently acceptable paradigm. These proofs would not have been so 'self-evident' in the middle of the 17<sup>th</sup> century, a period that, "in contrast to prescientific culture, seem[ed] preoccupied with firming the distinction between self and world, between knower and known" (Bordo, p.8).

Once again, it's important to remember that Cartesian dualism – and all the contemporarily associated revolutionary hypotheses advocating an objectivistic, reductionistic, mechanistic view of the universe – was a noetic phenomenon emerging from out of the long-established, tradition-bound mental structures of the scholastic Middle Ages, structures that were beginning to appear outdated and no longer viable but were nevertheless still status quo. In this context:

"Having in mind Galileo's fate, Descartes is...eager to assure the religious authorities that all the central tenets of theology are not threatened by the metaphysical system on which his revisionary anti-Scholastic science rests. Indeed he wants to show that the very method which establishes the validity of a deductive mathematical science...is the method that can prove the existence of God and the immortality of the Soul – or, as he puts it in a somewhat more modest passage, the distinctness of the soul from the body – on the basis of natural reason alone. He has come, as he intimates in his dedication of the *Meditations*...to fulfill the Scholastic promise of unifying science and theology" (A. Rorty, p.x).

Despite this self-professed purpose, the historical philosopher Rozemund is skeptical of Descartes' real intentions: instead of "fulfilling the Scholastic promise," she says that his motivations actually were to "supplant" their tradition – a true revolutionary instigating a "paradigm shift" (Kuhn, 1970). And with what did he hope to "supplant" the Scholastic system of thought, relying as it did on the Aristotelian hylomorphic fusion of "corporeal and spiritual matter?"

"Descartes's commitment to mechanistic science is crucial for his dualism...since it motivates his reconfiguration of the notions of mind,

body, and soul: *he wanted to develop a conception of body such that everything in the physical world could be explained mechanistically*” (Rozemund, p.xiv, emphasis added).

This, then, was the subtle brilliance of that “emblematic,” so-called “father of modern philosophy,” and the reason why we’re still regurgitating his name over and over again four centuries later:<sup>9</sup> His writing was composed in such a way as to serve as the philosophical ‘bridge’ to cross from the sheltered, secure (becoming stagnant?) shore of the sacred-religious, “organic universe” of the Medieval world over to the now all-too-familiar secular, mechanistic, rationally scientific world of the “modern” era. “The particular genius of Descartes was to have philosophically transformed what was first experienced as estrangement and loss – the sundering of the organic ties between the person and the world – into a requirement for the growth of human knowledge and progress” (Bordo, p.100). Descartes’ real motivation in explicating and announcing his distinctly dualistic, separatist epistemology was to lay the philosophical (and political) groundwork for the acceptance of the objectivist, mathematical, materialistic project of the likes of Galileo, Copernicus, Newton, Bacon, Hobbes, Kepler, Lavoisier, etc. – to make the world ‘safe,’ so to speak, for the appearance of unrestrained technical rationality.

Before moving on to outline a revised epistemology that can guide and inform the authentically practicing Ecovillage Designer, the purpose of this essay, it may be helpful to pause for a while, breathe, and take time to evaluate the consequences of this Cartesian anxiety. Where are we now? – the unwitting, unconsulted inheritors of this four-century old dualistic, separatist legacy – with the whole world conceptually sub-divided into subject/object, inner/outer, mind/body, mind/matter, human/nature, self/other, us/them, rural/urban, live/work, good/bad, etc. One need only ‘objectively’ purvey the state of the world today – the unsightly final phases of a self-consuming, techno-industrial-capitalism, squeezing the life out of every living system it can seize upon – to confirm the eventual dysfunctional, debilitating, even pernicious effects of long-term reliance on “technical rationality.” What else could be expected from relying on an epistemology positing a detached, isolated, value-neutral ‘subject’ perceiving, discerning – and ultimately

manipulating, controlling, and exploiting – a so-called ‘objective’ reality ‘out there?’ This sort of epistemology explicitly excludes and denies the “organic integrative holism” that can be the basis for a sense of the “sacred” (Batesons, 1987). Dependence on this sort of epistemology is, in fact, the very origin and substance of the whole sustainability dilemma – a dilemma for which the ‘ecovillage’ is proposed as a comprehensive solution.

The sad irony is that, when relying on “rationality” as a way of knowing, the means always can be reasoned in such a way as to serve the ends. (“You’re not being rational” means you’re not accepting my ends.) And what if the ends aren’t wholesome? For example, what if the unspoken ends have always been the centralization and consolidation of arbitrary power for a select elite? Then “deductive mathematical science,” and all its supposed “objective” technical rationality, will be only a means to serve that end. Objectivism is an illusion: There are always personal, political, and economic motivations underlying any philosophic or scientific program; there is always a real world context and a cultural history involving the needs and wants of real people. Concisely put, there is not a “world of objective reality that exists independently of us” (Bernstein, p.5, in his book *Beyond Objectivism and Relativism*). We are truly of the world; “we always emerge with and in the world, never independently of it or of one another. So in that regard, we and our world/natural environment nurturally co-specify one another in an unbroken continuum” (Burneko, p.18).

“Scientific epistemology must fail, since we can never have direct and innocent knowledge of an independent and objective world...the idea of achieving objective knowledge of a world from somewhere outside of the world to be known” (Wright, p.27).

This was the main thrust of the Cartesian program: to isolate a postulated rational, reasoning “mind” as the sole instrument for legitimating claims to Truth. Ideally, this mind performed the functions of an unclouded “Mirror of Nature” (R. Rorty, 1979), and objective “true” knowledge was the accuracy of representations in this mirror. However, Rorty argues “the attempt (which has defined traditional philosophy) to explicate “rationality” and “objectivity” on terms of conditions of accurate representation is a self-deceptive effort to eternalize the nominal discourse of the day” (p.11). As Rorty interprets it, Cartesian “epistemology is the attempt to see the patterns of justification within normal discourse as *more* than just patterns. It is the attempt to see them as hooked

on to something which demands moral commitment: Reality, Truth, Objectivity, Reason” (p.385). In this sense, Cartesian anxiety merely replaced one belief system with another. In summary, as a lesson learned after 2500 years of Western philosophizing, ““Objective truth” is no more and no less than the best idea we currently have about how to explain what is going on (ibid)...Objectivity is “agreement” rather than “mirroring”” (ibid, p.337).

Here is further insight gleaned by Susan Bordo, in her postmodern feminist deconstruction, *Sliding into Objectivity*, an interpretation from which I learned much and have quoted freely:

“As Richard Rorty has brilliantly argued, the notion of mind as “inner arena” of ideas, standing between subject and world, is born in the Cartesian era (1979). However, this “invention,” as Rorty calls it, needs to be understood as more than a move in a purely philosophical “conversation.” Rather, “the new way with ideas” is the philosophical expression of a profound cultural development – of what Stephen Toulmin has called “the inwardness of mental life”: the construction of experience as occurring deeply *within* and bounded by a self” (Bordo, p.49).

I believe it is very important to contrast this “inwardness of mental life,” as practiced by a Western philosopher, with the inward-looking, meditative mental states of the mystic, whose practice results in a sublime, co-participatory sense of *unity* and identification with the whole. The interiorization of experience “occurring deeply *within* and bounded by a self,” as exemplified in Cartesian dualism, is more like an inner conversation that only serves to reinforce the postulated separation: there is an encapsulated inner ‘I’ scrutinizing a distinct outer ‘other’ – the sense of unity is severed. This ‘I’ is none other than Descartes’ “thing that thinks” – the internal dialogue of an objectified and objectifiable ‘ego.’ The Cartesian program, in this regard, could be considered a purposeful attempt to justify the ascendancy of individualized ‘ego’ – posing as “soul” (and just as ephemeral) – as a foundation for legitimating knowledge.

And since this “mind” is already believed to be separated from its “body,” then it’s only a matter of logical extension to separate this “mind” from its “social body” – and from there, to make a clean break with all of Nature. As Bordo rightly emphasizes, this is not just a purely philosophical “conversation” but is an “expression of a profound cultural development” – a development whose culminations we are living with today: the

rejection of a collectively-oriented, inter-relative, social-natural order resulting in, among other things, isolation, dispossession, and anomie.

As Will Wright so poignantly observes in his immensely logical book, *Wild Knowledge*, the immediate beneficiaries of the type of rational science made acceptable by Cartesian dualism were the economic and political players:

“This new idea of nature, as formulated in Newtonian physics, began to legitimate a new kind of social order, an order based on private property, individualism, and the market. Ostensibly the new physics was about the objective laws of nature, but more practically it was about the political and economic realignments of Europe...The mechanistic nature of Descartes and Hobbes was seen as supporting a world governed by pure individual self-interest” (p.65).

Self-interest indeed, and a usurping of the stability and sustainability that are concomitant with a sacred-religious cultural worldview. A quote from Reiss epitomizes the lesson: “Descartes will hypostatize that *I* of discourse into the psychological self of possessive individualism” (ibid, p.101). As the *Meditations* were being written, of course, Europe was in the process of aggressively colonizing the world. A mercantile class was born that profited greatly from the exploitation of peoples scattered about the globe, peoples still immersed, for the most part, in an innocent sacred-religious worldview that proved vulnerably defenseless against the sheer predatory power unleashed by scientific technical rationality. Cartesian-based philosophy intended to justify this exploitation in a way that would still make it right with “God.”

Wright helps to put things in perspective:

“Science is understood as giving us valid knowledge...Scientific knowledge...rests on the idea of objective nature, that is, the idea that external, detached knowers can directly observe lawlike and indifferent natural processes through the use of mathematical concepts and experiments...By definition, then, this new scientific version of knowledge contained no inherent moral or social commitments, unlike the inherently moral knowledge of Christianity, the version of knowledge that science began to replace” (pp.23, 24, 26).

Wright goes on to assert that this “replacement,” lacking “social commitment,” was merely the substitution of one belief system for another:

“Scientific knowledge is defined by [the] assumption that mathematical observations can directly connect the rational mind with objective

nature...It is here that mathematics becomes magical, as the privileged paths to nature's laws that no one can explain. Like magic, the mathematical connection must be accepted on faith...Scientific knowledge depends on a generally tacit appeal to faith, a faith on the explanatory magic of mathematics, and yet science claims that this faith is rational" (pp. 79, 80, 81).

This line of reasoning concludes with the appeal: "scientific magic is also environmental disruption and so a more coherent idea of knowledge must be found, an idea committed to sustainability rather than mathematics" (p.81). Wright describes sustainable knowledge as "wild" knowledge, in the sense that it "cannot be captured [or domesticated] by particular cultural "truths" (p.195)...Such a "wild" knowledge would define an explanatory position between science and religion, in an effort to combine the scientific support for criticism and technique with the religious attention to social and ecological concerns" (p.59).

It sounds almost foreign, after 2500 years of Western philosophizing, to say that valid knowledge could be based on legitimating claims to *social-natural sustainability* rather than to some absolute Truth; but it is just such an epistemology that needs to be formulated in these days of rampant social-natural dis-integration; and it is just this kind of epistemology that will be a functional tool for the designers of ecovillages in the 21<sup>st</sup> century.

### Place-making, Co-worlding, Eco-poiesis

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An epistemology for Ecovillage Designers is a theory of knowledge, a way of knowing, that can guide and inform the proliferation of sustainable ‘human habitation systems’ for the 21<sup>st</sup> century. The epistemology guiding and informing Western Civilization (or rather, those prominent supra-epistemologies that were chosen to be representative for explanatory sake in this essay) reified two abstract intellectual concepts that turned out to be completely unsustainable: 1) Platonic Idealism – where the ‘Ideal Forms’ of some transcendental realm were considered to be more ‘real’ than direct, actual, lived experience; and 2) Cartesian Dualism – where ‘mind’ was considered to be a separate ‘substance’ from ‘body.’ By framing the problem in this way, my purpose was to position unequivocally Ecovillage Design as a comprehensive solution to the unsustainable incoherency of Western Civilization; indeed, the epistemology influencing an Ecovillage Design will be proposed as a sustainable theory of knowledge for the *post*-civilization phase.

That a major “paradigm shift” – a fundamental re-organization of the “models” we use to converse about relationships in reality – is underway is well-documented in the scholarly literature.<sup>10</sup> A good portion of this writing defines the current era as “postmodern.” “[T]he postmodern period follows the supposed triumph of science and rationality, calls them into question, and produces an array of diverse and divergent conceptions of knowledge” (Bentz and Shapiro, p.1). “The point of the postmodernity label is to assert that the present period (i.e., within approximately the past two decades) represents a qualitative break with the entire modern period of at least the past century or two” (ibid, p. 20). “Although postmodern theory includes a wide variety of intellectual propositions and ideas...some of its prominent features are:

- the idea of the “death of man,” which asserts that the “rational autonomous subject” is just a fiction or construct of a particular period of cultural history and that there may not be any such thing as a subject or even a self;
- the idea of the “death of history,” which asserts that the notion of history as progress is just a fiction or “metanarrative” and that there is no overarching meaning or direction to history;
- the idea of the “death of metaphysics” or the end of “foundationalism,” which asserts that it is impossible to provide an absolute foundation for knowledge, and that knowledge itself does not “represent” reality but merely “constructs” it in different ways;
- the idea that facts, meanings, and theories are constructs that reflect the temporary power of social classes, ethnic groups, and genders in an ongoing power struggle about defining reality and knowledge, and that such facts, meanings, and theories need to be not so much explained, interpreted, or critiqued as *deconstructed* – that is, to have their cultural, historical, and power bases exposed” (ibid, pp, 24, 25).

While the “postmodern theorists” are producing valuable analyses and critiques of the current, global, civilized socio-politico-economic meta-structure, including some that could be considered an attempt at defining revised epistemology, I think that for the most part the whole postmodern agenda (as I understand it) is a *superficial* approach to a much larger and deeper dilemma – a dilemma whose source goes back much further than “at least the past century or two.” After all the insightful “deconstructions,” or tearing down, there seems to be a paucity of substantial “constructions,” or pronouncement of viable alternative solutions, to fill the void – the result is referred to as “postmodern chaos.” The primary goal of postmodernity seems to be rethinking and reorganizing the power relationships within the existing framework of this advanced ‘civilization’ – a highly specialized, rigidly hierarchical, power-consolidating, city-based, urban cultural pattern – when the real problem may be civilization itself.

Therefore, a proposed epistemology for Ecovillage Designers, in recognition of the perceptual limits of postmodernity, will be an effort at going right to the core of the issue – right to the cognitive root of the sustainability dilemma. From this perspective, the problem is not so much how the relationships of various groups of “race, class, and gender” (or whatever classifications you might choose) are, or came to be, situated within the framework of a now senescent Western Civilization – these are effects or inevitable outcomes. The real problem lies in the overall systemic cultural context (in this case dis-integrity) within which these various groups are forced to interact. Rearranging the social

relationships at this stage of Western Civilization is a little like reshuffling the chairs on the deck of the *Titanic* – if only the course could have been diverted sooner.

The sustainable Ecovillage Design solution comes from radically revisioning, redefining, and restructuring the social-natural-cultural context within which the human experience enfolds and unfolds, over time – *at the scale of the ‘human habitation system.’* This makes Ecovillage Designing an act/art of place-making, co-worlding, and eco-poiesis.

An obvious place to begin “constructing” an epistemology for Ecovillage Designers is at that baneful split between mind and body. In the revised epistemology, mind is no longer a disembodied entity, a thinking “thing” with an independent life of its own; rather, ‘mind’ is the emergent property of a co-inclusive ‘pattern of relationships’ between and among organisms and the environments with which they co-evolve. Some version of ‘mind’ is, in fact, intrinsic to all living systems (Capra, 1999).

Speaking of the pre-organic patterns of complex, auto-catalytic carbon rings, the predecessors of the first living cells some 3.5 billion years ago, who were able to “sustain improbable patterns of ordered [internal] relationships for extended periods before dissipating back into their amorphous backgrounds:

This relationship between the new structures and the immediate environments in which they occur is extremely vital; in fact, it is mutually defining. Once an [indelible] impression has been made, the next time similar conditions appear, there is already a ‘mental’ model [a morphological memory] for the new structure to align with. New structures can form more quickly and sustain their patterns for longer periods because there is a precedent of recursive mutual interaction impressed into the environment from what has come before. This is the initial emergence of ‘mind,’ and the commencement of an evolutionary progression” (Mare, 2000, p.10).

Life begins, of course, when one of these rudimentary structures is able to maintain its self-organization – its *autopoiesis* – long enough so that it is able to begin exchanging materials, energy, and information with the environment from which it is constituted. As autopoietic unities, those first prokaryotic cells in the primordial ponds of the nascent Earth were already *cognitive*, in the sense that there was purpose to their activity: they would gravitate toward food and away from acidity, for example, in order to maintain

their autopoiesis, subtly transfiguring the environment with every metabolic transfer. “Living as a process is a process of cognition” (Maturana and Varela, 1987).

When viewed in this way, with mind understood as already having primordial biological roots, then the emergent properties *that are* cognitive potentials at ever-greater scales of ecological complexity, diversity, and interrelationship must be truly astonishing, miraculous, *mind-blowing*. Imagine the vast network of interactive, communicative relationships in, say, a climax rain forest or a mangrove swamp, with literally trillions and trillions of “autonomous unities” going about their daily business of maintaining autopoiesis and exchanging bits of information – “differences that make a difference” (Bateson, 1979). Or what kind of mind would appear as the emergent property of a cognitive living system at the colossal scale of the whole Earth – Gaia? And what an awe-inspiring creation is the human being, with a cognitive nervous system so complex and inter-referencing that it is able to achieve *self-consciousness* – the ability to be aware that it is cognizing while this cognizing is ‘taking place.’ But the meditators warn us about this self-conscious mind because it has a tendency to close in on itself and mistake its own internal dialogue for being the ‘true’ reality of the world. If this process is left unchecked, then the potential exists for separatist, dualistic, egoistic notions to arise with “the construction of experience...occurring deeply *within* and bounded by a self.” The next thing you know, a technically rational science will appear and the integrity of the whole evolutionary project will be jeopardized.

What a pity: self-consciousness has so much potential yet it may prove to be an evolutionary dead-end. If reasoning and reasonable human beings could only re-cognize that their self-reflective ‘minds’ (not brains) are just active inter-components of a vast, dynamic, pulsating, self-regenerating meta-mind – the biosphere – and that this biosphere is itself co-constitutive of mentation at galactico-cosmic scales, then they would naturally take steps to enhance this “ecology of mind” (Bateson, 1972), and thus enliven their own experience. When Bateson says, “epistemology is an indivisible, integrated metascience whose subject matter is the world of evolution, thought, adaptation, embryology, and genetics – the science of mind in the widest sense of the word” (1979, p.87), he is concluding that thought and evolution are one and the same process, and that this process is, after all, *mental*.

By becoming aware of this ‘way of knowing,’ by internalizing and acting from it, human beings have the potential to become conscious regenerative agents, enhancing and furthering the eco-biological evolutionary trajectory of planet Earth toward ever-greater complexity, diversity, and interrelationship. This conscious regeneration need not be a selfless act of altruistic heroism (although by contributing to the health of the whole it is, by definition, *sacred*); it is very much germanely practical and a matter of self-interest, for by enriching the biosphere, at whatever scale, one’s own health and well-being is thereby enriched – *and*, one’s cognitive potentials are thereby expanded. This means that, for example, ‘mindlessly’ destroying ecosystems – although sanctioned by the economic ends of technical rationality – is very much an act of “dumbing down.”

The best way to enter this ‘way of knowing,’ the most effective way to participate in conscious co-evolution, is through an awareness of the body – our own most immediate experiencing of Nature. Please stop reading for a moment and take notice of your body. Look at your hands. Feel your pulse. How’s your posture? Do you know where your liver is? Are you aware of the absolutely incredible regenerative functions it serves? Then realize that it took *3.5 billion years* of ongoing biological evolution to produce this body. Isn’t that stunning? What a miraculous work of cellular art this body is, what an astonishing piece of ultra-motive functioning and internal organizational coherence. I would call it a sign of foolishness to disparage or depreciate such a highly sophisticated, focused eventuation of long-term organic autopoiesis.

All during that vast time of successive evolutionary development, the various bodies that preceded this one, all the way down the genetic chain to that first prokaryotic cell that was able to maintain its autopoiesis, have been *cognitively co-evolving*, as bodies, with the environments and ecologies within which they’ve been embedded. This last observation can be emphasized to the point that it becomes erroneous or non-descriptive to speak in separate terms of ‘mind’ and ‘body’ as distinct nouns: it is far more precise to invoke a “body-mind” (Dychtwald), or the “embodied mind” of enactivist cognitive science (Varela, et al.). Bateson would call this “a sort of monism – the conviction that mind and nature form a necessary unity, in which there is no mind *separate from* body and no god separate from his creation” (1987, p.12). Self-consciousness, with its ability to perceive in isolation, is an epiphenomenon and an exceedingly late bloomer in

planetary evolution; bodies already have their own form of self-maintaining, self-correcting consciousness – the physical “mind of the cells” of Sri Aurobindo and The Mother (Satprem, 1982).

Fortunately, there is emerging an engaging new genre of writers and thinkers actively exploring with reconnecting that self-denying split between mind and nature. Christopher Preston, for example, has condensed a perceptive array of incisive insights and references in his groundbreaking *Grounding Knowledge: Environmental Philosophy, Epistemology, and Place*. I’m taking the privilege here to quote at some length because he has done such an exemplary job of articulating what were for me, until now, only intuitions. The sort of ‘epistemology of place’ that Preston is developing will prove to be a very valuable conceptual tool for the designers of ecovillages.

Being in a ‘place’ means, first of all, being in a ‘body;’ ‘place’ is an extension of ‘body:’

“By using the phrase embodied we mean to highlight two points: first, that cognition depends on the kinds of experience that come from having a body with various sensori-motor capacities, and second, that these individual sensori-motor capacities are themselves embedded in a more encompassing biological, psychological, and cultural context” (Preston, p.30, from Varela et. al).

“Mind [then] is an extension of the structures necessary for sensori-motor experience...Enactivism potentially connects the activities of the mind with the details of the physical environment...[E]nactivism opens up the intriguing possibilities that differences between the sensori-motor, embodied activities of individuals in different environments might have some relevance for cognition...It is not just the body but the kinds of things this body does in its world that gives the shape to its cognitivist structures” (ibid, p.34), “structures that emerge from our experience as bodily organisms functioning in interaction with an environment” (p.34, from Mark Johnson).

“[T]he particular form of our embodiment matters for it determines the nature of our interactions with the world. Far from interfering with scientific inquiry, interaction is the necessary precondition for acquiring any knowledge about the world at all” (p.33, from N. Katherine Hayes).

Preston lays this firm and convincing groundwork of unequivocally exposing the innate mind-body connection in order to support his thesis: that “our physical

environment comes to play an important role in structuring the way we think...that organisms that know things about the world are situated beings, beings cognitively grounded in the worlds from which they speak” (p.xi). “The organism is always mutually enfolded and in reciprocal evolutionary tension with its environment” (p.55). “Organism and environment actively co-determine each other not only physically but also cognitively” (p.56). “[I]t is impossible to talk about how an organism perceives without giving a detailed and particularized account of the environment within which that organism is acting. Perception hardly goes on inside the organism at all. It should be analyzed in terms of the possibilities that the environment presents to that organism” (p.62).

And finally, one more trenchant quote to summarize:

“Dialectical biology, ecological studies of perception, enactivist cognitive science, and environmental approaches to the philosophy of mind all provide evidence that the project of richly naturalizing epistemology means looking at how the particular spaces and places in which we do our thinking [and living] contribute to the knowledge we create [and to our worldview]” (p.74).

This is where the Ecovillage Designers come in, for their task or responsibility is, or could be considered to be, creating the kinds of ‘places’ where all the above realizations can become manifest, spontaneously. In other words, it must be possible through the conscious, knowledgeable, well-informed design of certain kinds of ‘places’ – places with the desired enabling qualities and characteristics – to influence and enhance the cognitive capabilities of the people living, playing, and working (and evolving) within them – *thus optimizing their human potential*. These places are the ‘human habitation systems’ that were introduced previously. As ‘ecovillages,’ they are full-featured, multi-dimensional, holistically-conceived, economically self-reliant, built human habitats – by definition, integrated into their encompassing local ecologies. Within these habitation systems, groups of consenting individuals collectively and autonomously organize their livelihoods and (in the language of the phenomenologists) create their unique “lifeworlds” – each ecovillage a lifeworld of its own. With a purposeful reference to ‘systemic’ organization, these nature-encoded habitations come in a wide variety of scales and functions: enclaves, aldeas, hamlets, villages, retrofitted urban blocks, restored

villas or hotels, etc., etc....or even federations of these holdings – there are countless variations on the recurring theme of meaningful “place-making.”

This resumption of responsibility for the creation of lifeworlds by choosing to design the qualities and characteristics of the holistic contexts in which they are enacted, is a big step towards actively participating in conscious evolution – towards the co-participatory co-evolution that may be called *co-worlding*. As people begin to realize that it is possible to create their lifeworlds – that there is *not* an objective reality ‘out there,’ with limited options from which to choose – then they may begin to catch a glimpse that there really is no distinction between the way their world is structured and the manner in which they perceive it, and thus of the *cognitivist* structures with which they come to know. As the structuring of various human worlds begins to be reintegrated back into Nature, through the conscious work of Ecovillage Designers proliferating nature-encoded habitation systems, then the artificial, imposed, manufactured distinction between ‘nature’ and ‘human’ will begin to blur. At that point it may be re-cognized that human beings are actually an integral part of Nature (always have been and always will be) and, with the gift of Self-consciousness, may even come to regeneratively co-constitute **with**, or even better, **as** Nature – to resume “a state of mind when our thinking “was not merely of Nature, but was Nature herself”” (Owen Barfield, in Burneko, p. 211). At this point, as the Daoist affirms, the human being takes over evolution, *becomes* evolution, is perched on that spontaneous leading edge that freshly renews (and directs) the diurnal ramification of Life; then every act is an act of co-worlding. The adept Burneko takes this image to a more inclusive level: “Thinking not so much about but as the wild cosmos, intuiting nondually rather than exclusively perspectively ratiocinating, this is the metaevolutionary option, the cusp of nondual autopoiesis” (p.33).

If autopoiesis is ‘self-organization’ then ecopoiesis is ‘home-organization,’ in a poetic sense. This may be the very heart of any sustainable strategy and this may be the ultimate purpose for the Ecovillage Designer: Home as the location of the hearth – food and fire; Home as the place where the children learn to discriminate and socialize; Home as the situationing where families learn to love despite differences; Home as the re-inhabitation of the natural world; Home as a context for ‘dwelling;’ Home as a provider of meaning and identity; Home as the nurturing womb from which to bring forth the next

species of humanity; Home as a place I've never seen, yet achingly long to return to; Home as a bulwark of shelter to withstand the blustery storms of the demise of Western Civilization... This home is not a house; it's an *ecovillage* – a home within a home within a home within a home.

*That which fills the universe I regard as my body and that which directs the universe I see as my own nature. – Chuang-tzu, circa 370 B.C.*

### Summary: A Research Proposal

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In the oft-cited *The Structure of Scientific Revolutions*, Thomas Kuhn reveals that the popular image of ‘science’ as proceeding by the sequential, orderly, incremental accumulation of ‘bits of knowledge’ about the workings of Nature does not measure up to actual practice. Instead, science is seen as proceeding in ‘discontinuous leaps’ that Kuhn calls “revolutions.” These revolutions, in what is accepted as constituting legitimate knowledge, appear at junctures when a cherished paradigm – a “universally recognized model” of the world – becomes no longer defensible in the face of contradictory, observable facts. The often chaotic restructuring and realignment of knowledge to accommodate the fresh facts, resulting in a new or revised theoretical model, is termed a “paradigm shift.” By all accounts, we are currently experiencing a paradigm shift of unparalleled proportions.

In this brief essay (which has only probed the surface of an immense subject) it was shown that the basic legitimating epistemologies underlying Western Civilization have proven to be incoherent. “Rational society seems to be disrupting itself systematically, and if so, then there is a fundamental problem with our legitimating idea of rationality, because this idea is legitimating ecological disaster in the name of reason” (Wright, p.ix). The rationality reified in Platonic Idealism and Cartesian Dualism effectively abstracted human beings from Nature – first conceptually, then increasingly phenomenologically, or *through direct lived experience*. As these epistemologies guided and informed the various design professions, for example, they led to the planning and construction of ‘human settlements’ likewise abstracted from Nature – lacking any sort of symbiotic, mutually-supportive, inter-referencing relationships with their underlying living ecologies. These settlements reflected very well the mechanistic, atomistic, reductionistic, objectivist “cognitive architecture” that conceived and built them.

This progressively increasing abstraction from Nature – as generation after generation began to foster lineages of detached, rational observers – has finally reached a

crisis point: city-dwellers – caged in monolithic boxes of concrete and steel, wedged into square grids of pavement completely obliterating any signs of a once living ecology – speak blithely about “going out into Nature,” which usually means in the Western world, driving out for some distance to be present for awhile in a setting that has not been overly-manipulated and disturbed by the actions of human rationality. This is pure therapy for the civilized mind; and unfortunately, these ‘wild’ settings are being pushed further and further into the background of time and space.

Later in the essay, it was re-cognized that human beings are *already* an integral part of Nature, and the perceived separation comes from relying on the ‘acquired conditioning’ of a detached, egocentric, ‘subject-object’ mentality. The mindset of ‘technical rationality’ continues to recursively reinforce its sense of separation by constructing built environments that replace the wild complexity and diversity of living Nature with overly-simplified, machine-like, obtuse aggregations myopically conducive to the rational goals of positivist science and industrial capitalism. A solution was proposed, under the auspices of a regenerative Ecovillage Design, whereby the most effective way to re-integrate human beings back into Nature – physically, emotionally, and mentally – was to begin creating ‘nature-encoded’ ‘human habitation systems’ that would be symbiotic expressions or outgrowths of their local living ecologies. In this way, through the ‘co-specifying’ effects of structural coupling, human beings would have the chance to re-identify with their primordial social-natural roots – as they are flourishing in a particular ‘place’ – and so come to participate happily as conscious regenerative agents in the biosphere. This long-term project was intimated as the only possible way to achieve lasting ‘sustainability.’

With this sort of contextual background, it is now possible to propose a Research Project that will assist Ecovillage Designers in creating the human habitation systems that will become the foundation for a sustainable social-natural order. At this stage of the game, all Ecovillage Designers are researchers anyway; and every ecovillage-in-process or any new proposed ecovillage – as prototype models of sustainability – are already Research Projects of their own. With all that in mind, allow me to describe three of the

fundamental, pre-eminent dimensions of Ecovillage Designing, as I perceive it – place-making, co-worlding, and eco-poiesis – in terms of their respective research traditions.

There is a growing body of literature exploring and defining what could be called an ‘epistemology of place.’ This research community seems to be inspired by and augmenting the seminal works of Humanistic Geography: Yi-fu Tuan’s *Topophilia* (love of place) and Edward Relph’s *Place and Placelessness*, wherein ‘places’ are defined as “impalpable territories of social activities and meanings projected into entire assemblages of buildings and spaces...in determinate wholes” (as quoted in Seamon, p.26). The book from which this quote was excerpted is entitled *Dwelling, Seeing, Designing: Toward a Phenomenological Ecology*. This conceptual interface between the cognitive, existential, experiential philosophy of ‘phenomenology’ and the environmental design professions – as enacted in the intention of meaningful ‘place-making’ – appears to be a fruitful avenue of research. Major themes here are: Humanistic Geography, Phenomenology, and Phenomenological Ecology, as well as the foundations of Human Ecology, Cultural Geography, and Cultural Anthropology.

“Co-worlding” is described by Burneko as a “hermeneutic ontology:”

“[O]ur situatedness in our lifeworlding is conversational. The conversational exchange, the dialogue, is among ourselves and with an ongoing reality (that is) itself the self-organization of an interminate field of co-evolving, co-emerging themes including the provisionally (self-) objectified “us”...The hermeneutic ontology suggested hereby does not reduce understanding to a relation between a “subject” and an “object,” then, but is the enactment/practice/*phronesis* of exchange and dialogue among un-whatted entities constituted by, not anterior to, the sharing of meaning” (p.190).

The kind of “conversational exchange” mentioned above can easily be transcribed onto the Ecovillage Design process, where a hermeneutic (interpreting for meaning) conversation is occurring not only between co-designers and residents, in dialogue, but also between designers and ecologies, designers and cultural traditions, and designers and the “spirits of a place” – the *genius loci* of Norberg-Schulz (1980). Schon calls design “a reflective conversation with the situation” (1983. p.77) and says of the “reflective practitioner,” “our knowing is *in* our action” (p.49). The hermeneutic tradition, the methodology of interpreting texts for meaning, can be holistically applied to the

interpretation of meaning in topo-mental landscapes. This is especially pertinent since, “application is an essential moment of the hermeneutical experience” (Bernstein, p.38). With *phronesis* being the wise application of practical knowledge, and *praxis* regarded as a kind of ‘karma-yoga,’ the hermeneutic tradition appears to be another fruitful avenue of scholarly research for edifying an Ecovillage Design. The works of Heidegger, Gadamer, Habermas, and Gebser will be included here.

Eco-poiesis, as a transliteration derived from the field of “living systems theory,” is a concept with which I am already familiar, having earned an M.A. in Whole Systems Design. Nevertheless, and notwithstanding, I perceive living systems theory as *foundational* to comprehending and communicating the intricacies of designing ‘human habitation systems’ that can claim to be ‘nature-encoded.’ This field is still rich with emerging concepts and vocabulary, and so continued research in this area should be highly productive.

The synergy of knowledge created (or justified) by integrating these three eco-design themes – place-making, co-worlding, and eco-poiesis – will constitute the epistemological foundation of the scholar-practitioner approach that is the unique focus of a doctoral program devoted to Ecovillage Design. Application of this knowledge will come through writing and teaching, and also through actual design scenarios, which, as “design courses,” will be integral parts of the education.

Two established research methodologies: “Environment-behavior Research” and “Action Research” appear to be useful frameworks within which to conduct further inquiry. Environment-behavior research (including Environmental Psychology) seems to be well-tuned to the sort of ‘optimizing human potential by the design of human habitats’ inquiry with which I am already engaged. I have seen the foundational literature and it is all very appealing (Zeisel, 1981); however, I have some reservations, as “behavior” is often a mechanistic metaphor, in a Skinnerian sense, for “tooling” the individual to fit into undesired contexts.

Action Research, as a “statement of intention and values,” looks like it could be a useful vehicle for delivering an eventual dissertation. “The intention is to influence or change a system, and the values are those of participation, self-determination, empowerment through knowledge, and change” (Bentz and Shapiro, p. 127). “Paulo

Friere developed a form of inquiry he called “participatory” action research...As a participatory researcher, you act as a facilitator of a process of inquiry involving as many stakeholders in the situation as wish to be involved. Ideally, these stakeholders will be involved in the research design, data gathering, data analysis, and implementation of action steps resulting from the research” (ibid, p.128). These “stakeholders” could be either existing ecovillagers or a group of folks just getting an ecovillage underway.

## Conclusion

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Whether we're aware of it or not, our actions are guided and informed by underlying epistemologies. We internalize these various 'ways of knowing' – concepts, theories, themes, methodologies, techniques, even opinions or hunches – through education and cultural indoctrination, and then reinforce them through practical experience. By articulating an epistemology – by stating in certain terms *that* 'way of knowing' that will influence our decision-making – we make conscious our intentions, align ourselves with cultures of inquiry, and help to bring forth a particular worldview.

In this essay, an epistemology for Ecovillage Designers was proposed, a 'way of knowing' that can guide and inform the “multifarious, omnidimensional design considerations that constitute the nature of their craft.” This epistemology was explicitly defined as 'nature-encoded' and 'body-centered' – so much so that the practicing designer becomes not only a regenerative agent acting in Nature's *behalf* but could actually resume a “state of mind when our thinking “was not merely of Nature, but was Nature herself.”” This would make the network of enacting Ecovillage Designers a sort of 'cognitive functioning organ' of a coming-to-consciousness Gaia taking steps to ensure her own health and vitality.

By accepting the legitimacy of this 'way of knowing,' it becomes only logical to assume that the most effective (sustainable) eco-logical designing comes from a state of 'full body awareness.' This body, including its finely tuned nervous system and its “fifty-three senses” – and by extension including the 'mind' that is the interactive, processual, co-determining relationship between this cognizing body and its encompassing environs – becomes the perceptual tool *par excellence*. Knowing this and integrating it, an accomplished Ecovillage Designer would 'naturally' take steps to ensure optimal somatic health (reflected in optimal environmental health) and would even maintain disciplined practice of methods that promote mind-body awareness – methods that enhance the subtle tuning of the nervous system so that it can reach optimal perceptual capacity.

Says accomplished Ecovillage Designer Max Lindegger: “I found observation the most important element in creating a sound, ecological design” (in Jackson, 2003, p.20). Permaculturalists are educated to actively observe and be present in a place for at least the cycles of a year before commencing design work (Mollison, 1991); but Lindegger goes further: “Under the heading of “observation,” I would also include the task of researching a piece of land, its history, talking to neighbors and people skilled in various aspects...We are “observing,” but we are not yet “designing.” If we jump into action too quickly, abbreviating the observation stage, and skipping a true design stage, we will have regrets later” (ibid). It’s interesting to note that many architects and planners skip the “observation” stage entirely, creating designs on a computer in a fluorescent office without ever having seen the site, thus creating structures and forms without context.

In closing, I want to propose that this Ecovillage Design work is inherently ‘spiritual,’ whether or not the designers actively practice any sort of ‘religion.’ It is spiritual because it focuses on renewing and maintaining the health of the whole by creating contexts in which human potential may be optimized and planetary evolutionary potential enhanced. This means that ‘spirituality’ is not just one dimension of the design process – it is the very purpose of it.

“Today, many people dream of community, beautiful surroundings, and meaningful jobs. These people have an inner craving for a more balanced and spiritual life, a loving place for their children to grow up, and a lifestyle which does not force them to leave their children all day as a price for being full members of society...[a] place full of life, joy and sharing, of living close to nature with plants and animals around them, where love is more possible. All the necessary wisdom, knowledge and technology are available to help this dream come true for everybody on this planet. Ecovillages are emerging attempts at realizing it, or at the very least parts of it. They are paintings in progress, of an envisioned Paradise on Earth” (Jackson, 2003, p.9).

## Postscript

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Since this essay opened with a quote from Sri Aurobindo, it is appropriate now to close it with another quote – Sri Aurobindo’s take on ‘epistemology:’

“The fundamental error of the Mind is, then, this fall from self-knowledge by which the individual soul conceives of its individuality as a separate fact instead of a form of Oneness and makes itself the center of its own Universe instead of knowing itself as one concentration of the universal. From that original error all its particular ignorances and limitations are contingent results. For, viewing the flux of things only as it flows upon and through itself, it makes a limitation of being from which proceeds a limitation of consciousness and therefore of knowledge...It is conscious of things and knows them only as they present themselves to its individuality and therefore it falls into an ignorance of the rest and thereby into an erroneous conception even of that which it seems to know: for since all being is interdependent, the knowledge either of the whole or of the essence is necessary for the right knowledge of the part. Hence there is an element of error in all human knowledge” (from *The Life Divine*, p.171).

## Notes:

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<sup>1</sup> In this business of ekistics, it has become common to use the phrase ‘sustainable human *settlements*,’ and I too have long used this phrase; however I have received feedback recently from a respected source saying that the word ‘settlement’ brings to mind unpleasant images of the occupied West Bank. Therefore, in this essay, I am purposely experimenting with the phrase ‘sustainable human *habitat*’ to see if that can effectively convey the meanings I intend. Not all ‘ecovillages’ make it to ‘settlement’ scale anyway but all are surely attempts at ‘habitat.’ (“Habitat II” seems to work well for the United Nations.)

<sup>2</sup> As much as sometimes I wish to evade it, I and my thinking are products of Western Civilization, so that happens to be the perspective from which I write. The ‘ecovillage’ concept originated in Western minds as a solution to Western problems, so it’s wholly relevant to trace the Western source of those problems. While the influences of Eastern Civilization are certainly pertinent, I do not know enough to reference them – yet – but look forward to the time I can make comparisons. My thesis throughout is that the cultural system called ‘civilization’ – East *or* West – is itself unsustainable. Fortunately, the ecovillage concept is being heartily welcomed in much of the two-thirds world.

<sup>3</sup> This is the title of Richard Tarnas’ exceptional rewriting of Western history with the forethought of preparing readers for the appearance of holistic developments of science during the 20<sup>th</sup> century. I thought that Tarnas’ wording was an excellent way to begin this discussion.

<sup>4</sup> Writes Kimberly Dovey, an architect, (in Seamon, 1993): “a geometric representation of the world [was] widely perceived as the one true arrangement, with people’s various everyday experiences being more or less accurate in relation to it (p.248)...Geometric space [as absolute reality] is a universal language of spatial representation and, therefore, has predictive value. The irony of geometric space is that it is the very elimination of human values that makes it useful (p.250).”

<sup>5</sup> This essay is in many ways influenced by Preston’s groundbreaking book: *Grounding Knowledge: Environmental Philosophy, Epistemology, and Place*. In one aspect, I am responding to Preston’s work and attempting to contribute to the discussion, particularly by adding the design perspective as a solution or obvious ‘next step’ to some of his conclusions.

<sup>6</sup> Or as they say in their own words in *The Tree of Knowledge: The Biological Roots of Human Understanding*: “We speak of structural coupling whenever there is a history of recurrent interactions leading to the structural congruence between two (or more) systems...the formation of metacellular units capable of giving origin to lineages by reproducing through single cells originates a phenomenology different from the phenomenology of the cells that make them up. This meta-cellular or *second-order* unity will have a structural coupling and an ontogeny adequate to its structure as a composite unity” (pp. 75, 78)...all organisms (ourselves included) function as they function and are where they are at each instant because of their structural coupling (p.124).

<sup>7</sup> Archimedes is supposed to have said, “Give me a firm point from which to leverage, and I will move the whole world” (from Bernstein).

<sup>8</sup> And it gets absurder: “Descartes’ viewpoint implies not only that a human mind, with all its contents, could exist without ever being embodied but also that it could be lodged in a body unlike the human.” (Malcolm, p.24). This kind of thinking laid the foundation for the hyper-reductive, deterministic materialism that pervades most of biology and cognitivist science today, so that it is possible for a researcher to imagine: “In some future state of physiological technology we might be able to keep a human brain alive *in vitro*. Leaving the question of the morality of such an experiment to one side [science is a-moral], let us suppose that the experiment is done. By suitable electrodes inserted into the appropriate parts of this brain we get it to have the illusion of perceiving things and also to have pains, and feelings of moving its nonexistent limbs, and so on. (This brain might even be able to think verbally, for it might have learned a language before it was put *in vitro*, or else, by suitable signals from our electrodes, we might even give it the illusion of learning a language in the normal way)” (ibid, p.73, quoting a scientist names J.J.C. Smart). Is this madness?

<sup>9</sup> The term “emblematic” comes from Bateson and Bateson (1987), who liken Descartes’ revolution with that of Darwin’s 200 years later: “The dialectical view of history is comparable. It assumes that at a given

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period in history, say the middle of the nineteenth century, social differentiation and pressures were such that a theory of evolution of a particular kind would be generated to reflect that social system. To the Marxist it is...irrelevant whether that theory was produced by Darwin, or Wallace, or Chambers, or by any other of the half-dozen leading biologists who were then on the point of creating an evolutionary theory of that general kind. The Marxist assumption is that when the time is ripe the man will always be present. There will always be someone who will form the crystallization point for the new gestalt. And, indeed, the theory of evolution would seem to confirm this. There were several men in the 1850s who were ready to create a theory of evolution. And this theory, or something like it, was more or less inevitable, give or take ten years before or after the actual date of publication of *The Origin of Species* (p.117).

<sup>10</sup> For a sampling derived from the 'whole systems' perspective applied here, see: Capra (1982) *The Turning Point*, Meadows, et al. (1972) *The Limits to Growth*, Meadows, et al. (1992) *Beyond the Limits*, Kotke (1993) *The Final Empire: The Collapse of Civilization*, Quinn (2001) *Beyond Civilization*, Stavrianos (1976) *The Promise of the Coming Dark Age*, Fuller (1969) *Utopia or Oblivion*, Rudhyar (1970) *The Planetarization of Consciousness*, Spangler (1976) *Revelation: The Birth of a New Age*, Jenkins (1998) *Maya Cosmogensis 2012*. There are many more.

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