

SUSTAINABLE BEING: WORLDVIEW SHIFTS AND THE RECONSTRUCTION OF  
HUMAN CONSCIOUSNESS

By

JOHN BREVARD BEGEMAN

A THESIS PRESENTED TO THE GRADUATE SCHOOL  
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE IN BUILDING CONSTRUCTION

UNIVERSITY OF FLORIDA

2007

© 2007 John Brevard Begeman

To my father, family, friends, and Michelle

## ACKNOWLEDGMENTS

I thank my family and friends for all of their love and support. I also want to thank Dr. Kibert, Dr. Isenberg and Dr. Olbina for their support, and knowledge. Additionally, I would like to thank Michelle for everything.

## TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS .....	4
LIST OF TABLES .....	8
LIST OF FIGURES .....	9
ABSTRACT.....	10
CHAPTER	
1 WORLDVIEWS, CONSCIOUSNESS AND THEIR IMPLICATIONS .....	11
Introduction.....	11
Contribution.....	14
Objective of the Study .....	15
Problem Statement.....	15
Relationship to Building Construction .....	16
Hypothesis Statement .....	16
Summary.....	16
2 OVERVIEW: MANIFESTOS TOWARD A SUSTAINABLE BEING.....	18
What is Consciousness?.....	18
Sustainability and Consciousness .....	19
Structure and Explanation of the Maps .....	20
Maps of Consciousness: Quantifying the Spectrum of Consciousness .....	21
Kinesthesiology .....	21
Spiral Dynamics .....	24
Integral Operating System.....	27
Pathway to the Realization of Sustainable Being.....	30
Integral Life Practice and All Quadrants All Levels .....	31
Integral Life Practice Matrix .....	32
Spiritual or meditative module .....	32
The 3-2-1 process (shadow work module).....	33
Kinesthetic or physical module .....	34
Ethics.....	34
Work in the world .....	34
Transmuting emotions.....	35
Relationships .....	35
Meditation and evolution .....	36
State meditation.....	37
Enlightenment.....	38
Scientific Correlation to the Experience of Heightened Levels and States.....	39
Human Cognition .....	42

Modern Physics .....	44
Nonlinear Dynamics .....	44
Sustainability and non-linear dynamics .....	45
Attractors and causality .....	45
Role of Religion toward a Sustainable Being .....	47
Coagulations en Route to Sustainable Being .....	47
Summary .....	49
3 METHODOLOGY .....	51
4 REFLECTIONS OF COLLECTIVE FRAGMENTATION .....	53
Pathologies within Western Social Contexts .....	53
Antiquated Ecology .....	55
Fragmented Planning Policies and Politics .....	57
Construction Corporate Analysis .....	67
Green Building Practice .....	69
Technology .....	71
Modernization of Technology without Fruition of Consciousness .....	71
Societal Conditioning and Cultural Values .....	72
Summary .....	74
5 MANIFESTATIONS OF SUSTAINABLE BEING WITHIN CULTURAL CONTEXTS .....	75
Sustainable Development and Public Policies .....	75
Concepts for Post-Conventional Sustainability .....	77
Reflection of Change .....	78
Healthy Spectrums .....	79
Ideal Integral Culture .....	80
Integral Green Building Techniques .....	85
Spiral dynamics and sustainable development .....	86
Future food and vertical farming .....	88
Integral architecture and construction .....	89
Technology .....	92
Cultural Reflections of Shifted Frequencies .....	93
Summary .....	95
6 CONCLUSION .....	97
APPENDIX	
A HAWKINS' DEVELOPMENTAL MAP .....	99
B HUMAN DEVELOPMENT IN THE FOUR QUADRANTS .....	103

C NANOTECHNOLOGY .....	105
Progressive Conceptions of Technological Advancements.....	105
History .....	107
How Will Nanotechnology Help Develop a Sustainable Planet?.....	108
Nanotechnology and its Effect on the Construction Industry.....	109
LIST OF REFERENCES .....	112
BIOGRAPHICAL SKETCH .....	116

## LIST OF TABLES

<u>Table</u>	<u>page</u>
3-1 Kinesthesiological counterbalances of humans at heightened levels of awareness.....	49

## LIST OF FIGURES

<u>Figure</u>	<u>page</u>
3-1 All quadrant all level map of human development.....	50

Abstract of Thesis Presented to the Graduate School  
of the University of Florida in Partial Fulfillment of the  
Requirements for the Degree of Master of Science in Building Construction

SUSTAINABLE BEING: WORLDVIEW SHIFTS AND THE RECONSTRUCTION OF  
HUMAN CONSCIOUSNESS

By

John Brevard Begeman

August 2007

Chair: Charles Kibert  
Major: Building Construction

My study explored and analyzed the parallels between the current state of human consciousness and the environmental crisis (in particular, the crisis associated with the built environment). This perspective has been overlooked and is a leading causal factor of environmental degradation. My study shows how the outer environment is a reflection of humanity's collective level of awareness. Without an internal shift in consciousness, the environment will continue to atrophy.

A shared sentiment of life's quintessence shapes a sense of unity and cohesion in humanity; by discerning the interconnectivity that transcends the collective sentiment of separateness, the inclination to harm is eased. Eagerness to protect the environment then arises instinctually rather than by necessity, mandate, or force. Decisions affecting the green building movement have previously risen from an egocentric thinking rather than a heightened level of consciousness. Such elevated stages are characterized by a sense of harmony, meaning, unity, and interconnectivity and manifest in the built environment as ecological perfection. My study proposes the consciencial foundations for a paradigm shift that will steer the green building movement in an innovative direction, setting the consciencial foundations for a truly sustainable world.

# CHAPTER 1

## WORLDVIEWS, CONSCIOUSNESS AND THEIR IMPLICATIONS

### **Introduction**

Life on earth began with billions of years of blue green algae and bacteria. Evolution, although slow, began with the onset of marine invertebrates for about 600 million years and mammals for approximately 60 million years. The human species has been evolving for over 100,000 years and managed to construct a “safe” environment by placing barriers between itself and the natural world. These barriers are symbolic expressions of the collective level of awareness.

In the grip of the ego, man formed the mind-dominated, mass-producing industrial revolution in which humans resisted, pulled back from nature, and created large industrial cities. Almost 200 years later, humans began understanding that physical bodies react positively to plants, trees, the sun, and other natural life forms. Recently, physicists have learned of the unified field of energy and information connecting all of creation (string theory). Scientists have looked deeper into the physical structure of what humans perceive as material from the cellular, molecular, atomic, nuclear, subnuclear, and then the unified state of vibration. This research has led scientists to see that humans are made of, essentially, empty space.

Humans are living in a symphony of harmonics where everything is a reverberant frequency. Many humans have begun understanding that deeper levels of human intelligence correspond to deeper levels of nature. Humans have become so bombarded by materialism that they have cut themselves off from the realization that they are that which they harm (the earth, the universe, and each other). Unfortunately, many humans have not yet opened themselves to perceive this heightened level of being. Until a shift occurs where humans begin to feel and

understand this perspective, everything created by humans will stand only as further separation from each other and the infinite.

Throughout history, architecture, construction, urban planning, and public policy, the environment and the processes of construction has reflected humanity's degree of consciousness. Currently, technology and digital architecture are setting precedence for human consciousness through perceptual manipulation of timeless space. Previous linear perception of reality has warped into the all-encompassing amorphous monarchy of digital space. Individual and collective perception is progressively shifting, thereby enhancing awareness of the spaceless, timeless, and formless realm which humanity inhabits. Many humans are becoming liberated from the Newtonian worldview (the perspective of only the perceived physical) and witnessing that sentient beings are essentially multidimensional beings involved in the conceptualization of this human experience. This conceptualization has begun to manifest in sustainability, technology, and building science.

Building science and technology have been present in society for countless years. Through the technological evolution, humanity has witnessed how it has become mind-dominated and bombarded by materiality while regarding it as the highest form of self-enhancement. The mind-created sense of self has produced achievements of the 20th century that would have been inconceivable in the 19th century, however, the greatest achievement of humanity was not the architecture, science, or technology but the recognition of the human dysfunction (the ego). This collective dysfunction of the human mind is reflected in government policies, ecology, technology, corporations, sociology, and the violence that humans are inflicting on other humans, life forms, and the planet itself. The annihilation of oxygen-producing trees, plants, and other life forms as well as the poisoning of the oceans and air is driven by greed, ego-rationality

and the ignorance of the connection to the whole. This continued perspective will inevitably result in humanity's self destruction. However, understanding the root causes of the destruction will help alleviate the further injustice to the planet (A New Earth).

Systems ecologists, theorists, and philosophers have argued that the root causes of the environmental crises have been population growth, irresponsible construction, excessive consumerism, greed, and so on. Although collective symptoms, the causal factor for the collective dysfunction and environmental dystrophy is not the fear, construction, growth, or the greed. The fear and greed are derived from the desire for self-enhancement, the strengthening of an individual's conceptual identity or self image, and a longing for more. The blueprint for destruction that humans grow with and carry within is the ego (exaggerated sense of self, separate from others). The ego has manifested into environmental degradation by snowballing physical expressions. At this destructive level of awareness, egocentric, superficial decision-making affects the environment, architecture, construction, education systems, government entities, big businesses, urban and regional planning, and sustainability. Decisions made at this level of awareness will not manifest significant affirmative changes in this physical matrix.

Confused by lack of progress, humans have been distraught over environmental catastrophes without the realization that the outer reality (the environmental conditions) cannot be changed without an alteration of the inner reality (the collective level of awareness). The awakening some humans are beginning to experience presently is a product of the abundance of conditioned mind structures as well as alterations to technological density, which is shifting perception of form and information density. In this period of history, humanity will have the opportunity to defy the gravitational pull of materiality and rise above the identification with form that keeps the egoic condition in place.

Recognition and full understanding of collective unconsciousness as the root cause of the environmental degradation can modify the observer's perception of certainty, thereby allowing humans to perceive a positive physical reality derived from an elevated level of awareness. Inner contamination will dissolve with conscious awareness and outer pollution will recede with inner stillness.

There is a direct relationship between the level of human awareness and the contaminated conditions of the environment. Sustainability currently examines the conditions of the exterior physical environment and proposes solutions based on symptoms witnessed in the environmental degradation. This proposal examines sustainability from the interior aspects of human culture, society, and individual beings.

The intention of this study is to explore the mechanisms for achieving a level of sustainable being within each level of development. Planning policies, government entities, corporations, current green building practices, architectural design, and construction will be examined and contrasted with successful alternatives through this exploration of consciousness. Additionally, cultural analysis will allow the reader to interpret the characteristics of the most sustainable countries in contrast to the fallacies of the United States.

### **Contribution**

The intention of this thesis is to contribute a much needed dimension to the current perspective of the environmental crisis and green development movement. Transpersonal experiences, synthesized theoretical and scientific research have provided significant evidence to substantiate the theory that the environment is a reflection of human consciousness and an extension of it. This research analyzes how the built environment (from planning to technology) currently reflects human awareness, and how the current fragmentation can be reversed with the evolution of human consciousness. The research also includes suggestions for the development

of a sustainable being, culture, and environment. These solutions are aimed at allowing people to reconnect with each other and the natural phenomenon.

### **Objective of the Study**

Objectives of my study were to synthesize and analyze the effects of the individual and collective consciousness on the environment and expose interior issues manifested in the built environment. These manifestations are mechanisms of the pathologies but not the source of the inherent dysfunction. This research exposes the source of the collective dysfunction and explores potential solutions to mitigate this dilemma. The observer will witness how inner developmental blockages dissolve with conscious awareness and how environmental pollution recedes with inner stillness. Eagerness to preserve and protect the environment will arise instinctually as this presence arises. The intention of this study is also to explore the parallels between the current state of human consciousness and the environmental crisis. The goal is to propose the developmental foundations for a paradigm shift that will steer the green development movement in an innovative direction, setting the foundation for a truly sustainable world.

### **Problem Statement**

The ecological problem projected on the world today is derived from the collective spectrums of human development. Development in all spectrums of human consciousness will aid in ecological excellence. Sustainability currently ignores these interior aspects of sustainable development. Fields of study have become fragmented and unable to develop strategies based on an approach that encompasses all spectrums of human development.

Although these problems exist, humans cannot be held at fault because they don't know what they are doing. Humans have not yet realized that when they destroy the planet they are really destroying themselves. The earth can be compared to the collective human body that

keeps cutting itself without realizing that it will soon bleed to death. Realization will occur through conscious presence.

### **Relationship to Building Construction**

Urban planning, technology, architecture, building construction, public policy and sustainability all arise as reflections of the level of awareness of human beings. The way buildings are designed and built is fragmented and dislocated, which adds to the environmental degradation. Decisions to develop, plan, design, and build have arisen from a level of awareness that has remained disconnected from the whole. As human beings evolve through the stages of consciousness, the outer environment will reflect this inner growth of awareness. The decisions affecting the way humans design and build will be of a higher quality.

### **Hypothesis Statement**

The unconscious inclination to harm arises from an illusory sense of self (the ego) that is unconnected to true being. When a sense of presence, timelessness, multidimensionality, and divine spiritual connection with everything arises, the intense understanding of the essential interconnectivity eases the inclination to harm. Eagerness to care for the environment then arises instinctually rather than by fear or obligation. As consciousness is further elevated, recognition of complete unconditional perfection manifests into ecological flawlessness.

### **Summary**

These environmental problems are not the fault of the people because we are generally unconscious we don't know what we are doing. When we bring a deeper level of presence into their lives, we will have a greater understanding of our connectedness to the whole. However, if humans remain out of alignment with the evolutionary impulse of the universe than we will just suffer the environmental consequences of our own unconsciousness. This thesis examines this important aspect of sustainability that is frequently ignored but known from within.



CHAPTER 2  
OVERVIEW: MANIFESTOS TOWARD A SUSTAINABLE BEING

**What is Consciousness?**

This question cannot be answered because when we answer it we have falsified it and made it into a concept or an object. However while consciousness has been traditionally known as spirit, spirit cannot be known in the normal sense of the word. Consciousness can however be described as the infinitely vibrant self-aware field of intelligence moving through all things. It is deep-seated in nature and is the essence of the infinite. This world of matter which sentient beings perceive in a waking state is nothing but vibrations of consciousness that are made of consciousness. Everything in the universe is made of consciousness.

Advanced theoretical physics has exposed that everything is not inherently physical. Humans only perceive objects as physical. Scientists have been studying the nature of what composes the physical realm. Findings have shown that what is out in the physical world is essentially the same as what is inside. According to many physicists, everything is made from consciousness, whether inside or outside (Hawkins 208).

A characteristic of the individual expression of pure consciousness is the perception of timelessness. Consciousness is beyond all form and time and is always equally present. This is why such titles as Is-ness, Beingness, or oneness have shown a total singularity of all being. This thought-free state of all knowingness is beyond limitation of individual personal experience where there is no needing or wanting. When humans can end the illusion of time and material concept, evolution and environmental perfection will come rapidly. Time is an illusion of the mind or maya. When one truly experiences this, everything becomes unreal because the reality becomes apparent. People have a hard time understanding this because all humans know is this world with nothing else to compare it to. This may seem theoretical or philosophical but it is not

because this physical dimension is full of man made concepts and the real reality is only experienced through transcendental experiences near death experiences, or death. However, consciousness never dies.

### **Sustainability and Consciousness**

The present environmental crisis is primarily due to a fragmented worldview, a worldview that radically separates culture and nature, body and mind, subject and object, thoughts and manifestations; a collective perception that is anthropocentric and atomistic. This environmental crisis is reflected from a world which has 70% of its population residing in ethnocentric perceptions or in lower levels of awareness. This collective perception has alienated the human species from the true interconnected state within which men, women, and all species exist. Sustainable development could potentially embrace a new collective perception that unites all people from all religions and all backgrounds. At this point, consumption and production patterns will no longer overburden natural life-supporting systems and a comprehensive approach to sustainability, public policy, and spirituality will be dominant in the world of the manifested.

Although a collective perception of wholeness and interconnectivity will influence mass populations, higher levels of existence are possible for any human being. These higher levels are described by Ken Wilber as post-conventional levels of development. An individual at post-conventional levels of development has the ability to love more openly and find value in honesty and ethics while taking personal responsibility for the life situation. People at this level are compassionate and see situations and things from different perspectives. Many other authors, physicists, doctors, spiritual teachers, and philosophers have described these higher levels in many unique ways and developed methods to map them. These exploratory charts aid observers in self revelation and evolution through awareness.

Levels of development were analyzed and collected through synthesized research from around the world for human transformation. Evolving into the next phase of growth will reflect a transformation in the outer environment. This new stage affects all lines of development including cognitive, spiritual, behavioral, and cultural. The post-conventional growth stages are characterized by advanced human capabilities, awareness of the ego and negative thought patterns, and the ability to visualize oneself, situations, things, and people from multiple perspectives. At this level, creativity, intuition, love, and synchronicities emerge effortlessly. However, every person is unique with their own individual expressions, intuitions, thoughts and feelings.

These concepts apply to any religion or belief with the intention of developing a sustainable being. The introduction of Ken Wilber's transpersonal and integral life practice allows the observer the opportunity to bring awareness into imbalances (pathologies) surfacing at any level (or stage, empirical perspective line, quadrant, state, or type). Wilber's levels of development, for each line (multiple intelligences), fall into three subcategories of three expansive phases: post-conventional (new Americanized approach), conventional (established), and pre-conventional (similar to childlike). These categories will aid in the categorization and synthesis of an improved model for sustainability based on the work of Ken Wilber and many others (Rubin).

### **Structure and Explanation of the Maps**

Physicists, doctors, philosophers, and writers who have researched the subject of consciousness from multiple perspectives have corresponding results from unique viewpoints. Ken Wilber has synthesized work from around the world to develop models considered to be the most comprehensive and precise. Dr. Hawkins (2004) contributed with a unique approach to consciousness research through applied kinesiology. Hawkins's work is beneficial for an

introductory analysis of the stages of consciousness yet it lacks the depth and integral approach developed so intricately by Ken Wilber. Hawkins' analyses of the stages of consciousness are extracted from a monological perspective (self) as opposed to a comprehensive perspective. Hawkins' analysis issues determinants of human behavior from a monological perspective which correlates to the upper left quadrant of Ken Wilber's Integral Operating System. It is important for the observer to recognize these deficiencies when observing Hawkins's study (Integral Spirituality 286).

Hawkins' research on kinesiology is helpful as an introduction to interior awareness based on the testing of a muscle response to stimuli. A negative stimulus results in a verifiable waning of the test muscle; a positive stimulus provokes a sturdy muscle response. Clinical kinesiological muscle testing as a diagnostic technique has had widespread substantiation over the last 25 years. The kinesiological response reflects the capacity of the human organism to differentiate between catabolic (life consuming) and anabolic (life enhancing), as well as true and false. This technique is verifiable across time with randomly selected naive test subjects and provides an objective basis for distinguishing truth from falsehood.

### **Maps of Consciousness: Quantifying the Spectrum of Consciousness**

#### **Kinesthesiology**

David Hawkins' research spanned over 20 years involving millions of calibrations on thousands of test subjects of all ages, personality types, sexes, and races. When the test subjects were to imagine negative thoughts, the muscle test would be weak. When they reflected on positive thoughts such as love, the muscle test were strong. For example, unknowing, naive subjects were tested holding two apples; one was grown with pesticides, the other organically. The organic apples gave strong muscle testing results and the inorganic apples tested weakly to the muscle tests.

For the purpose of his research, the kinesiological testing was used to calibrate levels of consciousness so a random logarithmic scale of whole numbers emerges, stratifying the power levels of consciousness in all regions of human experience. This research resulted in a calibrated scale of consciousness in which the log of the whole numbers ranging from 1 to 1000 calibrates the degree of power of all potential levels of human awareness (Hawkins 8). This consciousness quantification is important because it allows the observer to understand how the evolution of the collective human consciousness will develop into a sustainable planet (Appendix A).

The evolution of consciousness can be shown in mathematical terms of nonlinear dynamics. Dr. Hawkins calibrated consciousness with parameters extending from 1 to 1000. These numbers used to quantify consciousness represent the logarithm (to the base 10) of the power of the particular field. The range of 1 to 600 represents the area of the immense bulk of human experience and from 600 to 1000 is in the realm of the irregular evolution (highest spiritual states) (Hawkins 36).

This calibrated scale has been examined in light of current discoveries in advanced theoretical physics and nonlinear dynamics of chaos theory. The research represents powerful attractor fields within the domain of human consciousness. These patterns detect how thought patterns can formulate one's reality and the perceived environment. The patterns clearly demonstrated that collective consciousness directly affects surrounding collective consciousness through osmosis.

According to Hawkins's model, 85% of the human race is below the critical level of 200 and the overall average level in 1995 was approximately 204. However, the power of the relatively few individuals at the top counterbalances the weak at the bottom thereby producing

this average. The level of 200 is a critical level because any level below is damaging to the collective consciousness and environment (Appendix A). Unfortunately, less than .4% of the world's population calibrates at an energy level of 500 or over. Only one in ten million reach the level of 600.

Survival is an important aspect of these quantifications. Where populations are struggling to barely survive, they are usually at the energy level of the low 200s. In these areas, the environment is reflective of this energy field. Positive education can be important in the growth of the individual. The most educated, well-read individuals, some CEOs, and other leaders in their fields usually remain in the 400s. However, these individuals including Einstein, Newton, Freud, and Descartes were graphed at 499 because of the limited worldview or Newtonian vision of the universe and the Cartesian split between mind and body. The jump between the levels of 499 and 500 is a great leap in consciousness awareness. At the level of love (500), excellence is seen in every field of endeavor. The presence of an individual at this level will uplift others and have the capacity to create profound works of art, architecture, music, and literature. These people create new paradigms with implications affecting millions and uplifting society (Hawkins 76).

The extreme negativity of a few perverse individuals can sway entire cultures and produce global drag on the general level of consciousness. If people can escape the egocentric entrainment of sub-200 attractor fields, and choose happiness and love, higher levels can then be obtained. Although fifteen percent of the world's population is above the energy level of 200, the collective power of that fifteen percent counterbalances the negativity of the 85 percent of the world's population. A single individual at the enlightened level of 1000 can counterbalance the

collective negativity of all of mankind. Table 3-1 shows how each individual can raise the collective significantly, to allow for rapid change to occur.

If it were not for these counterbalances, humanity would self destruct. The self destruction would come from the collective negativity. Advanced theoretical physics and nonlinear dynamics have shown that each individual increase raises the collective consciousness of everyone on the planet (Hawkins 285). These levels are based on highest recorded data and do not reflect the whole spectrum of human consciousness. The infinite levels exist within holons, which are only measured until 1000, however, higher levels are achievable but not yet fully documented.

This graph by Hawkins allows the observer to visualize attributes and aspects of energetic levels of consciousness. Although helpful in self observation, these levels are not inclusive of the multiple perspective approach graphed by Ken Wilber. The lack of synthesized information doesn't allow the observer to reference all types of perspectives.

### **Spiral Dynamics**

The Spiral Dynamics map is similar to the work of Hawkins in that it examines the collective human mindsets and their manifestations at various levels of awareness. Spirals are a dynamic expression of natural and cosmic forces seen in everything in the universe. DNA codes, galaxies, hurricanes, and the expression of love (in the form of the ration of phi) when the brain is hooked up to biofeedback are all expressed through this fractal spiral. Spiral Dynamics intertwines the stages of development with collective worldviews to further understand the relationships between them. The theory of spiral dynamics is that human nature is not fixed in one position. Humans have the ability to adapt to their environment by constructing a more intricate conceptual model of perceived reality to acclimatize to new situations. Theoretically, a new model would embrace, accept, and transcend the old model. The models are applicable to

both individuals and collective cultures. However, individuals and cultures are not categorized in any particular category. Each culture or individual carries a mixture of all parts of the whole model in varying degrees. When higher stages are reached the lower stages are not disregarded but included.

Spiral dynamics does not include states of consciousness but it works in waves. Since the concept is to transcend and include, the average sentient being would likely activate a different level at a unique time. However, it is difficult for an individual mostly in one stage to acknowledge and appreciate another stage (Integral Psychology 51).

The model of Spiral Dynamics is nonlinear so regression and evolution is dependent on collective or individual life circumstances. These models have become more relevant due to the crucial time period in human evolution where humans are witnessing the manifestations of the collective dysfunction.

The stages of spiral dynamics or memes, represent all sociological and psychological models of evolution. The term “meme” is a word for a place of steady values and behaviors. These behaviors or worldviews are briefly described as follows

**Beige:** This level, a survivalist domain which was formulated 100,000 years ago. is dominated by instincts, the natural elements, and the need for survival. At this level sustainability is not even an issue of relevance or concern, because the flow of life and resources is fairly balanced. This level represents about 0.1% of the world population and 0% of power.

**Purple:** This tribal level began about 50,000 years ago and is focused on keeping the tribe safe. The focus at this level is also on magical concepts and far out new age beliefs. Approximately 10% of population and 1% of power is represented by this domain.

**Red:** This egocentric meme began about 10,000 years ago and is characterized by impulsive actions and the concept that only the strongest survive. This level would be manifested as authoritarian rule. Red meme represents 20% of population and 5% of power.

**Blue:** This level began about 5,000 years ago and falls under the belief that everyone should believe the universal truth. Puritan America is indicative of these ideals. This level is characterized by loyalty to ideological principles and self purpose. The blue meme represents 40% of population and 30% of power.

**Orange:** This achievist-based level is found in the autonomous entrepreneur living simply for economic success. This individual or culture is competitive and driven by consumerism. This worldview focuses on commercialism leading to excessive consumption, social disorder, and environmental degradation. This corporate-dominated worldview began about 300 years ago and represents 30% of the population and 50% of power.

**Green:** This level is characterized by the desire to clear out inner turbulence to become more caring and mindful of the needs of others. The green worldview is a sensitive worldview that began about 150 years ago and focuses on ecological balance and diversity. Sustainability becomes more prevalent when this meme is incorporated. This level represents 10% of the population and 15% of the power.

**Yellow:** At this level one values cognitive development, systems thinking, and the perceptions of others. This worldview began around 50 years ago and is characterized by the strong desire to learn. These systems thinkers see relationships in systems and evaluate ecological strategies leading to a more sustainable world. This yellow level represents 1% of the population and 5% of the power.

**Turquoise:** This final level began around 30 years ago with a strong focus on spiritual connectivity. This experienced connectivity brings more meaning and balance into the physical domain. This is the combination of cognitive development, intuitive thinking, spiritual development and its experiential manifestations of wholeness. The turquoise meme represents 0.1% of population and 1% of power.

These memes are not simply limited to the ones listed on the chart; these are currently the only ones that have been significantly researched. These memes do not signify where a person is in their developmental track, it simply states some apparent dominant attributes. Societies and worldviews are always changing, so this chart simply states that someone's dominant traits may remain in the orange level but they still may have varying percentages from all of the other memes. Beige through green is classified as the first tier. They hold a belief that their meme is the only real perspective. Yellow, turquoise and any higher levels believe that all levels and truths are important to the development of the whole. Many people stop moving through the stages completely due to stagnation in life situations, however life has a tendency of pushing people along the developmental tracks.

The point of this spiral is to tell a story of the evolution of the consciousness of the human race—to suggest that humans may save the planet and humanity from continued suffering, unconsciousness and extinction by orienting ourselves towards growth and evolution, and towards further mastery of complexity. The Spiral Dynamics model is a map. It is up to us humans to choose to analyze and understand it or not.

### **Integral Operating System**

The IOS is a non-dogmatic system that communicates an all-inclusive method of developing into an elevated level of awareness. The integral operating system shows the significance of including the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> person perspectives. The map used for this system

is a neutral framework which allows the observer to bring more awareness into any situation. This system also brings a common operating system into all fields to integrate unique talents, concepts and individuals. The map leads to an expansion of awareness from the egocentric “me”-based thought process to the worldcentric “all of us” mode of thought (Integral Spirituality 32). This perceptual reallocation is important in the development of any sustainable being initiative. Unique individuals from multiple disciplines could potentially unite for an integral approach to sustainability.

The all quadrants all levels map (AQAL) is short for all levels, all lines, all states, bodies, all types, and all experiential points of view. These quadrants are the different aspects of the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> person realities laid out as a map (Integral Spirituality 30). AQAL was developed as an integral map to better interpret the comprehensive integral model. The model allows all areas and perspectives to be explored and all bases to be addressed. This integral map or “operating system” is necessary to index ecology and sustainable being to further incorporate it with other seemingly unrelated fields. This operating system suggests that consciousness is implanted in cultural or intersubjective dimensions. The integral approach rapidly advances trans-disciplinary knowledge (Integral Spirituality 7).

On the integral map, the system evolves from the central area of simplicity toward complexity. Within the map there exists a division of exterior and interior, body, mind and spirit, and singular and plural. The right side of the map is developed from the exterior or matter and the left deals with the interior or mind. As witnessed from Figure 3-1, the top half of the chart is singular and the bottom half is plural. The Inside "I" is the 1st person approach to 1st person realities which is singular. The fundamental methodology is the phenomenology which is the perspective from the inside of the mind which arises in immediate awareness. The outside "I" is

the 3rd person approach to 1st person realities and the fundamental methodology is termed as structuralism which is the analysis of patterns within oneself. Phenomenology and structuralism are quite unique in that structuralism looks for the patterns that connect the situations. The structures govern the phenomena without the phenomena ever knowing (Integral Spirituality 55). Hawkins' research map is a brief analysis of this upper left hand quadrant in Wilber's map.

In Figure 3-1, the inside "We" is the 1st person approach to 1st person realities which are plural. The fundamental methodology of the inside "We" is termed hermeneutics which is the ability to interpret or examine one's religious concepts and theories. The outside "We" is a 3rd person approach to 1st person realities whose fundamental methodology is described as cultural anthropology or the examination of one's culture.

The inside "It" is a 1st person approach to 3rd person realities which is singular. The fundamental methodology of the inside "It" is termed autopoiesis which is the regeneration and realization of the network of processes from which something is produced. The outside "It" is a 1st person approach to 3rd person realities and the fundamental methodology is the concept of empiricism which denies that anything is knowable without reference to an experience.

Lastly, the inside "Its" is a 1st person approach to 3rd person realities which are plural. The fundamental methodology of the Inside "Its" is termed social autopoiesis which is a self maintaining unity. The outside "Its" is a 3rd person approach to 3rd person realities, the fundamental unity of which is systems theory or systems ecology which is a multiperspectiable analysis of the structure of systems.

The events in the quadrants are referred to as holons or whole parts that are part of the whole. Wilber describes holons in expressions of teleology or the ultimate causes in nature. He

claims that holons have drives to maintain their entirety and they are parts of a larger whole.

Consciousness is settled through all four of their quadrants (A Brief History of Everything 21).

Consciousness actually exists distributed across all four quadrants with all of their various levels and dimensions. There is no one quadrant (and unquestionably no one level) to which we can point to as being consciousness. Consciousness is in no way localized in that fashion. The Upper Left quadrant is the starting point of consciousness as it appears in an individual. Yet consciousness on the whole is anchored in, and disseminated across, all of the quadrants intentional, behavioral, cultural, and social. If you "erase" any quadrant, they all disappear, because each is intrinsically essential for the subsistence of the others (Eye of Spirit 273).

Stages of growth on the map are not immediate and take a considerable amount of time to develop. Human evolution and personal growth will speed up rapidly with inner work and meditation. However, stages cannot be skipped or bypassed. Stage 1 is the egocentric "me"-centered stage which is dominated by the physical manifestations. Stage 2 is characterized by an ethnocentric "us"-centered mind stage, where an identity growth happens from the egocentric to the stage of shared relationships with others. In the 3<sup>rd</sup> stage, a worldcentric perspective allows a further expansion from us to all of us. Stage 4 is the integrated stage where higher compassion is achieved on a deeper, more interconnected level (Integral spirituality 11) (Appendix B).

### **Pathway to the Realization of Sustainable Being**

Sustainable being is the development within one's level of awareness where there is a natural inclination to do no harm to the planet and other sentient beings. Ideally, further development would shift the perspective toward a stage of self actualization non-dual awareness (the perception of the entire phenomenological world as an illusion where there is no distinction between mind and matter, self or other, and subject or object). Higher stages of development and post-conventional awareness are and all aspects of this consciousness characterized by the absence of the self separate from others. However, the development of sustainable being is not

the highest stage of development but full development within one's stage toward a level where balance and true sustainability can occur.

The concept of sustainable being is not to be confused as overly optimistic or idealistic. Development toward sustainable being is the development within one's level of awareness to a state of connectedness. The level of a truly sustainable being would consist of any level of awareness where thoughts and decisions arise from true essence thereby contributing positively to society and the environment as a whole. "Every thought, action, decision or feeling creates an eddy in the interlocking, interbalancing, ever-moving energy fields of life, leaving a permanent record for all time." Upon this apprehension, sustainable changes and human evolution become an easier feat (Hawkins 104).

It is imperative for human beings to understand and experience universal interconnectivity for the reason that individual growth magnifies to alter the world perceived by all. The current earth degradation is a clear indication of this pathology existing within because sentient beings attract what they emanate. "We all add to our common buoyancy by our efforts to benefit life." When humans individually evolve, the immediate surroundings do so as well because everything is made manifested by perception in this interconnected web of life where sentient beings are the entire web. However, simply understanding or memorizing this concept has no implicit or practical implications on the common reader (Hawkins 105).

### **Integral Life Practice and All Quadrants All Levels**

The 1<sup>st</sup> person experiential aspect of the integral approach is called the integral life practice (ILP). The concept of ILP is that if the body, mind, and spirit levels are combined with the self, culture and natural systems quadrants, then nine areas of evolution and awakening would occur. The ILP combines all of the personal transformative techniques (Integral Spirituality 30). Moreover, the Integral Life Practice helps the observer to become more present in the moment,

heal from past wounds, and elevate their level of awareness without problems on their developmental path. Ideally an individual would become aware of which area needed the most growth from the AQAL chart, thereby beginning at that point (Rubin).

### **Integral Life Practice Matrix**

The integral life practice is a practical application for individual growth to develop into a sustainable being. Practical evolutionary methods were extracted from all quadrants and corresponded to one another. The integral practice focuses on the importance of growth in areas to enable uncomplicated growth in others. For example, a healthy body will allow for more endurance in other areas of growth, and meditation will help develop focus, mindfulness, clarity, and awareness. Integral practice is utilized as a cross training synergy that integrates the consciousness fully. When one can exercise multiple areas simultaneously, the evolutionary process will speed up tremendously. Change in one area will facilitate rapid growth in others. Ignoring any area will cause weakness to occur leading to disadvantages in other areas (Integral Operating System 49). Ideally, one could pick one practice from each module and use them in tandem. According to Wilber, the transformational cross training accelerates growth.

### **Spiritual or meditative module**

The purpose of this module is for the meditative states training. Meditation will unveil the transpersonal territory ahead of the egoic sense of self. These meditative practices could be done through formless meditation, meditation with form such as Transcendental Meditation, inquiry meditation such as jnana yoga, prayer such as contemplative or centering prayer, or a movement meditation such as tantra or Osho's Nantaraj. Many meditative practices exist which are helpful for this module of growth.

### **The 3-2-1 process (shadow work module)**

The 3-2-1 module focuses on the shadow (repressed unconscious) and the necessary work needed to convert the shadow from the 3<sup>rd</sup> person symptoms to the 2<sup>nd</sup> person presence to the 1<sup>st</sup> person consciousness. This module will help make the unconscious conscious by becoming aware of those aspects of ourselves that may have been buried or disowned. Many people carry deeply repressed feelings of anger, jealousy, envy, sadness, and many others. There are thousands of practices including facilitated work and psychodynamic practices that exist to integrate shadow therapy. Such therapeutic practices consist of shadow work which includes: reversing projections, taking responsibility, and emotional release; dream work which involves: a dream journal, interpretive approaches, and remembering dreams; and an internal dialog which could include: journaling, acting, and the recognition of inner monologs (Integral Operating System, 54).

Shadow work begins through witnessing the ego and expanding it to include everything in nature and all conscious beings. Another perspective of this experience would be the death of the ego which may be ephemeral due to a new egoic manifestation. The ego is also the entity getting rid of the old ego, thereby replacing it with a new one. For example, a “New Age” meditative person may experience altered states of consciousness, alienate himself and perceive himself as “more evolved” than the others, unconsciously creating an ego identity of his new perspective and devolving because of it. The ego could creep up at any level of evolution and create a self where there previously was not one. The shadow work aids the observer in recognition of the ego and understanding how thought patterns will manifest into the observer’s belief system and spiritual experiences. For example, a Christian may have a spiritual experience and communicate with Jesus Christ thereby thinking that Christianity is the only true belief. In the distant past this warped perception would alienate this Christian from any

“nonbeliever” and he would feel justified in killing the other because of the perceived difference (Rubin).

### **Kinesthetic or physical module**

Kinesthetic intelligence refers to the physical body and its agility, balance, coordination, strength, speed, and flexibility. Intuition and creativity arises more effortlessly through individuals who utilize the body in such a fashion for many years. Practices that will guide the body toward wellness include: dieting by: utilizing supplements, cleanses, raw foods, vitamins; anabolic exercises including: weightlifting and yoga; cardiovascular exercise including: hiking, biking, skiing, swimming, jogging, or tennis; body work including: Rolfing, chiropractic, and the Alexander technique (Integral Operating System 52). This model is a three body workout module to exercise all three bodies—the gross, the subtle (sleep state body), and the causal (cause of the rest). This module addresses the three bodies in the upper right quadrant.

### **Ethics**

Ethical practices link behavior in the upper right quadrant with postconventional moral awareness in the upper left. Other types of ethics could include codes of conduct, integral ethics, self discipline, professional ethics, and vows. Social and ecological activisms are important ethical practices that need substantial attention at this point in human evolution. When big businesses, managers, CEOs, and other decision makers integrate ethics into their practices, the environment will reflect the integration. More importantly, ethical practices need implementation in the public sector and among all government entities. Integration of ethical practices into the government sectors will bring focus to underdeveloped ethical conduct.

### **Work in the world**

This module focuses on positive work from the LR quadrant. Work can be used as a mode for the development of the integral life practice. Community service and volunteering are

helpful for people to feel situations from the perspectives of others. An individual's work can be utilized as a transformative practice daily to help one evolve.

### **Transmuting emotions**

This module focuses on letting go of negative emotions stored within and often reflected out. Emotional intelligence training and emotional mindfulness practice are helpful to own and move beyond negative emotions holding one back from achieving full potential. Creative expressions such as art are also helpful in transmuting emotions.

### **Relationships**

This module focuses on the importance of communication skills, relational spiritual practice, and couples therapy. Ideally, one would first focus on their most significant relationships (LL) as an expression of integral awareness (Integral Spirituality 205).

These modules or waves of existence should not just be practiced in self but also in culture and nature. For example, if one were to exercise these waves in culture, they would provide service for the homeless. Similarly, if one were to exercise these waves of existence in nature they would get involved in environmental protection (Theory of Everything 138). Preferably, one would exercise all waves of being, including: mental, spiritual, emotional, and physical and in self, culture and nature.

The concept of a multiple perspective approach allows all individuals involved on any government or project or situation to benefit greatly. Other practices that will help the observer widen their perception of the world include: vision practices such as: visualizations and affirmations, knowledge from: reading, academic investigations, learning different points of view, and critical reflections; perspective-taking activities such as: role playing, acting, or dialog,

and finally expressive activities such as: creative projects, art, writing, or designing (Integral Operating System 52).

### **Meditation and evolution**

All sentient beings have three phenomenological realities or bodies including the gross body, subtle body, and causal body. The subtle body is a light body used while dreaming; the gross body is the physical form perceived daily, and the causal body is the body from which the rest of the bodies originate (Integral Spirituality 17). The experiential aspects of these bodies can be explored through practiced meditations or contemplative prayer.

During meditation one can explore deeper levels of the mind which brings the mind to greater levels of abstraction. The mind is then trained in concentration while the gross body is undisturbed and observant of the present moment. Meditation brings humans closer to experiencing the ever-present field of pure consciousness. All humans have access to this field of intelligence, which is a nonmaterial field of intelligence (Hagelin).

Multiple states of consciousness can be experienced by meditation. States of consciousness include waking, dreaming, deep sleep, meditative, altered states, and many other peak experiences. Conversely, stages of consciousness are permanent as opposed to states which are transitory. Stages are referred to as levels of development. The states occurring at all quadrants can become permanent states through the evolutionary process, thereby becoming stages. States and stages, however, are deeply interrelated. Research has shown that continued development through states can help transform transient states into permanent stages.

Higher states are derived from the recognition of the true self independent of the falsely perceived sense of self. This recognition is profound and unexplainable in words especially without the experience. Through transpersonal experiences, one can experience true sustainable being beyond the heavy burden of materialism by which many humans define themselves. Self-

created definitions are limiting and establish a sense of fear because they are established by a false sense of self. These pathologies are not only self-created but culturally created by different holons at multiple scales of human existence. The human conception of time is an example that limits and distorts the perceptions of sentient beings (Hawkins 86).

The initiation of a higher level of a sustainable being is due in part by an absence of self boundaries, loss of the cognitive faculties, and a sense of oneness with the world. These traits follow all as a direct result of inner work and meditation. Meditation can lead to immense vertical development in the “I” quadrant. Meditation can also help an individual move an average of two vertical stages in four years (according to Wilber’s model). Ideally, meditation could be combined with an integral life practice and the AQAL framework to provide a brisk transformative practice (Integral Spirituality 137).

### **State meditation**

Enlightened states can be achieved through meditation; however, enlightened stages are rarely achieved by meditation alone. The more an individual experiences states, the more one can propel themselves further through stages. Stages, however, cannot be skipped. According to Wilber, an individual at any stage can experience altered states of consciousness or peak experiences but they will perceive and interpret that stage based on the stage at which they are.

Considerable research has proven that the more we experience contemplative or meditative states of consciousness, the faster we develop through the stages of awareness. No other practice or technique has empirically demonstrated to do this. This is because when one meditates, they witness the mind thereby turning subject into object. This witnessing is the central mechanism of expansion. Wilber states that, “The subject of one stage becomes the object of the subject of the next.” State meditation can significantly help with vertical stages of growth because the experience of altered states of consciousness cannot be interpreted within one’s present mind

structure. The experience of altered states is utilized to disidentify from dualism and identify with oneness (Integral Spirituality 141).

Unfortunately, meditative states can be and are used as a support mechanism for the green level pluralistic worldview. This mental manipulation of the altered states is important to observe because at later stages the ego will try to creep in and formulate an egoic identity which further separates one from others. These interpretations of experiences can be dangerous to the livelihood of others in some circumstances. As previously stated, the experience will be perceived based on the level of development. If someone has a peak experience at a low level, the perception may alter their perspective to perceive others (nonbelievers) as evil, thereby feeling justified in harming them (Integral Spirituality 89).

Meditation alone does not bring permanent solutions to any problems or pathology. If an individual meditates on interior frustration, for example, the meditation will only bring heightened awareness to that frustration; it will not get rid of the root cause of the problem. Meditation could potentially postpone the issue and even intensify it in some cases. The paradoxical goal of meditation has been to detach or disidentify from any “I”, “me”, or “mine” which could arise. This has become a problem, not a solution to the problems that lie within. (Integral Spirituality 126). Ideally, one would become aware of one’s anger, own it as “mine” and then release the anger and the self observing it (converting the “I” into a “me”). Pathological development would convert “I” into “it.” So the goal is to transcend and embrace instead of transcending and denying. Unfortunately, meditations such as mantra meditations or chants are not sufficient for realization of enlightenment because it is forced and created by ego.

## **Enlightenment**

Enlightenment is the realization of oneness with all states and all stages that exist all of the time. Wilber has stated that enlightenment is the “union of both emptiness and form or the union

of freedom and fullness.” Wilber further splits enlightenment into two segments, a vertical enlightenment and a horizontal enlightenment. He describes vertical enlightenment as becoming one with all stages at any time period. Wilber describes horizontal enlightenment as becoming one with all states including gross, subtle, causal and nondual (Integral Spirituality 236).

### **Scientific Correlation to the Experience of Heightened Levels and States**

Enlightenment is a reality that is attainable by all sentient beings because humans are already enlightened; there are just layers blocking this level of awareness. At this stage, interconnectedness is experienced on a day-to-day basis as pure being. It is a state of profound inner silence and inner bliss. At normal states of awareness, humans have always needed more to make themselves complete without understanding that the true bliss comes from the level of enlightenment within. Enlightenment is the full development of mind, emotions, and body with utilization of the entire brain. At this level of sustainable being, desires become fulfilled effortlessly. Manifestations of enlightenment are witnessed in EEG coherence (total brain activity) corresponding to the experience of enlightenment. These deeper levels of thought are much more powerful than the mind utilized at a superficial level of awareness. The more powerful thoughts are witnessed in the physiology of the brain.

An EEG or electroencephalogram is a test that measures and records the electrical activity of the brain via electrodes attached to the head and connected to a computer. When larger portions of the brain are used, the EEG shows coherence (the brain becomes synchronized). Typically, EEG scans show fragmentation of brain activity. When orderly brain functioning is seen on the EEG, the individual will display high levels of intelligence in all aspects of brain activity. The EEGs show vast differences in the brain scans when the individual is experiencing a meditative state. Total brain use rarely occurs and later leads to atrophy in areas used less by the brain. “Holes” (parts of the brain not lighting up or being used) in the brain occur after years

of no use. Lack of whole brain functioning leads to a fragmented perspective of the world. This underutilization of the innate potential of humans leads to problems in the world such as behavioral issues, violence, and even pollution. Fortunately, this can be reversed with experience and awareness of the unified existence of humanity and can lead to global stability and expanded comprehension in global EEG coherence.

Researchers from around the world have compiled meditation research to prove the inherent abilities of meditation to alter human physiology. Other research has concluded that meditation in large groups could alleviate crime rate. Over eight different scientists performed experiments with thousands of Transcendental Meditation (TM) meditators to test the impact of the meditation on violence in war-stricken areas. The positive outcome shows highly significant statistics proving progress with peace. The likelihood that this diminution of violence was due to chance rather than the meditative groups was less than one part in ten million million millions. This makes this phenomenon of reduction of violence the most meticulously established and comprehensively tested phenomenon in the history of the social sciences. According to quantum physicist Dr. John Hagelin, “There is far more evidence that this phenomenon can turn war off like a light switch than there is evidence that aspirin can reduce headache pain.” This technique can also be utilized to reduce pollution in the oceans and in the environment (Hagelin).

In another experiment reported by Newberg and d’Aquili, a Buddhist meditator was instructed to signal the researcher when he has achieved a certain meditative state of mystical oneness. His brain was then scanned, and its patterns of neural activity were mapped. The researchers found that in the meditative state, neural activity in a certain region of the brain was significantly reduced. This region was associated with a human’s ability to distinguish between themselves and the environment lying outside of them. It appeared that the feeling of oneness

was linked to the termination of the normal neural activity that enforces a sense of separate personal self-identity. This state of awareness is called non-dual awareness and it is characterized by a sense of oneness with the infinite. When humans experience this state of non-dual awareness, they generally relate differently to the world (They see all life as life within themselves which allows them to become a sustainable being).

In virtual reality models, consciousness is autonomous of the brain. Consciousness could enter into particular states of its own not determined by brain activity. Due to the ongoing communication link between the brain and consciousness, it may be certain that brain states are linked to these states of consciousness. Further inferences would suggest that a state of global consciousness might be easier to maintain if the brain stopped insistently issuing reminders of mental and bodily boundaries. This is why a goal of meditation is to stop the senses and the mind thereby allowing transcendental awareness to become apparent without distraction (Thompson 137).

On the other hand, the scientific materialist claim is that the spirit can be reduced to the brain and it is nothing but the brain, due to research on brain states during meditation. All the meditation does is activate certain areas in the material brain. Studies showing these activated areas and research with neuropeptides and immunomodulators are all material manifestations of nonmaterial activities of consciousness. However, scientific materialism does not take the meditation research as evidence that the spirit is real, but quite the opposite. This research has shown us that the spirit is nothing but brain physiology. These concepts have pulled individuals back into their safe zone of “quadrant absolutism.” Some individuals have become so rigidly fixated into their beliefs that they are unable to accept any other ideas or perceptions. In some cases, an egoic identity has been created that refuses to be disrupted by outside concepts.

Brain-state research, evolutionary biology, neurophysiology, and brain biochemistry are disciplines in the outside “It” quadrant. “A spot in the brain lighting up during meditation says nothing about the ontological status of the referent in that state.” However, research with neuropeptides has shown that thoughts and emotions (which are nonmaterial) manifest as physical symptoms in the human body. This research with neuropeptides and immunomodulators are examples of material manifestations of consciousness (Integral Spirituality 165-166).

### **Human Cognition**

Human appreciation of the mechanics of perception is liberating for any sentient being. Human beings have developed and programmed premature cognitive commitments from human-made interpretations. These premature cognitive commitments are conceptual boundaries that sentient beings have structured within their consciousness and the nervous system, which continue to reinforce the conceptual boundaries in human consciousness. Basically, the world is literally not the way it is perceived by sentient beings. For example, a bat perceives ultrasound and a snake senses infrared radiation. The real look or texture of the world is in a sense nonexistent. This example allows one to view the importance of cognitive development to reprogram oneself to see everything from multiple perspectives (Chopra).

Cognition is a key aspect to collective expansion and the sustainable being concept. Cognition relates to the progression of the acquisition knowledge by the use of reasoning, intuition, perception or the ability to take a multiperspectable approach. Cognitive intelligence includes intellectual abilities such as problem solving, information processing, critical thinking, analyzing, writing, and reading (Integral Operating System 52).

Cognitive development is helpful to increase the amount beings from which an observer can identify. If someone cannot cognitively perceive from the perspective of another, they cannot

access the realm of true compassion and love for another. When an individual is highly developed cognitively, they can perceive people, situations and things from multiple perspectives independent of one rigidly defined viewpoint. Preoperational cognition allows one to develop the capabilities to view from the 1<sup>st</sup> (egocentric) person perspective. Additionally, concrete operational cognition allows one to take a 2<sup>nd</sup> person perspective (ethnocentric). When using formal operational cognition, one could take the 3<sup>rd</sup> person perspective (worldcentric). Early vision logic allows one to take the 4<sup>th</sup> person perspective (beginning Kosmocentric). Lastly, with mature vision logic one could take a 5<sup>th</sup> person perspective (mature Kosmocentric). These stages move from the ability to love only oneself to being able to love everything in existence.

Ecology, emotions, true sustainable being, and ethics are behind the cognitive line, because the process of feeling requires perception (Integral Spirituality 124-126). Perspectives must be elected circumspectly and developed integrally because the cognitive system (conceptual understanding) will determine the type of evolution an individual will perceive. The cognitive system has not yet been integrated into modern sustainability nor has it been fully received by and felt by the decision makers and leaders.

Humans have varieties of intelligences including emotional intelligence, cognitive intelligence, artistic, musical, kinesthetic, or moral intelligence. Most of the human population excels in one or two yet they are behind in the others. It is important as humans that strengths and weaknesses are examined. Multiple intelligences (developmental lines) include: cognitive, moral, emotional, aesthetic, and interpersonal.

When one can visualize where he or she is in development, they can graph an evolutionary process. Witnessing a pathology or problem in one sector can help the individual plan accordingly. One can be introduced to a full spectrum of states of consciousness yet they cannot

be introduced to the qualities of higher stages without actual growth and practice, because stages unfold sequentially. Any high states can be experienced at any stage in growth. However, it is important to note that the more an observer experiences the higher states, the faster the growth and development process will occur through the stages. Experiencing multidimensional realities will help an individual disidentify with a lower stage.

## **Modern Physics**

### **Nonlinear Dynamics**

Mankind's perspective of natural phenomena has changed throughout many years and especially through the inauguration of computer technology. Physicists' perspectives on chaos theory flourished through the use of computer technology. Simultaneously, quantum mechanics led to advanced theoretical physics; through related mathematics, and then the study of nonlinear dynamics emerged (Hawkins 28).

Computers disclosing large amounts of data disclosed unsuspected systems which were thought to be meaningless data (chaos). Theoretical physicists instituted coherent methods of understanding data that had been considered incoherent (non-linear or chaotic). These studies were inexplicable through conventional mathematics yet through nonlinear equations, the data enclosed hidden energy patterns (Hawkins 30). Computers then modeled these energy patterns into "fractal" geometry. It is interesting to note that every form in the universe operates as a fractal as they are the link between discrete dimensions.

Nonlinear dynamics "discovers the relevance in what the world discards as irrelevant, using an entirely different approach and totally different method of problem resolution from the ones the world is used to" (Hawkins 31). Unlike conventional problem solving, when solving problems using nonlinear dynamics, the problem starts with the unknown (the answer) and ends with the known (the question).

## **Sustainability and non-linear dynamics**

The current methods determining sustainable practices are methods of the old paradigm. Sustainability has been defined in terms of linear thinking which is logical and rational. However, the experience of life itself is organic and nonlinear by definition (Hawkins 2004). The shift in consciousness occurring in 2007 is due to mankind's shift in perception.

## **Attractors and causality**

Attractors are the name given to the identifiable pattern that emerges from the large mass of data which seems incoherent. Dr. Hawkins stated that “the phenomenological universe is the expression of the interaction of endless attractor patterns of varying strengths.” He expressed that these complexities of life are the “reflections of the endless reverberations of the augmentations and diminutions of these fields, compounded by their harmonies and interactions.” Newtonian physics excluded nondeterministic phenomenon in its concept of causality because it was not in alignment with that perception of physics. From the discoveries of individuals such as Bohr, Heisenberg, and Einstein, humanity has witnessed a great expansion and evolution in understanding of unity, space, time, and universality. Humans haven't yet fully understood how everything in the universe is interconnected and depend upon everything else (Hawkins 102).

Causality has typically manifested (in this physical dimension) by the concept that

$A \rightarrow B \rightarrow C$  (A causes B which causes C) which is a deterministic linear sequence.

However, as seen from recent research,  $ABC \rightarrow (A \rightarrow B \rightarrow C)$ . In this model, ABC is unobservable and results in the physical manifestation of  $A \rightarrow B \rightarrow C$ . The unobservable ABC is the attractor pattern that manifests into the observable phenomenon. The Newtonian way of understanding causality ( $A \rightarrow B \rightarrow C$ ) classifies the current sustainability practice. The current sustainability practice has been directed by mind-dominated individuals who are driven by money. However, the second concept of understanding causality  $ABC \rightarrow (A \rightarrow B \rightarrow C)$  is what this thesis will explain.

These experiments have exposed that within the field of pure potentiality, there are giant attractor fields that systematize all of the human behavior, but within this field there are lesser fields of progressively less energy and power. These fields “dominate behavior so the definable patterns are consistent across cultures and time throughout human history.”

Sir John Eccles concluded that the brain is a receiving agent for energy patterns that exist in the mind as consciousness which is expressed in the form of thought (Hawkins 34-36). The individual that lives their life from  $A \rightarrow B \rightarrow C$  will not experience this field and the happiness that it entails because that source of bliss is derived from something outside of them instead of the true essence from within. At this state of being, the human does not need outside sources or material abundance for contentment. When humans achieve this state of awareness, the planet will reflect the purity of sustainable beings.

Artificially intelligent supercomputers have allowed the application of theories of nonlinear dynamics to be applied to the study of brain function through neurophysiologic modeling. Current research has shown that the brain’s neural networks act as a system of attractor patterns and the stored memory act as attractors. These findings show how there is coherence to the masses of data previously determined as meaningless.

The neuron models of consciousness unveil a division of neural networks that are constraint satisfaction systems. These systems operate a network of interconnected neuron units within a series of limits and establish attractor patterns which are now being identified with psychopathology. The modeling correlates behavior with physiology and parallels the outcome with the kinesiology and thereby demonstrating the connection between mind and body.” These connections are important for the observer to understand to aid in the development of a new earth (Hawkins 35).

## **Role of Religion toward a Sustainable Being**

Religion has a strong influence over 70% of the world's population and its role in the shift toward sustainable being is immense. However, religion alone cannot influence the followers to evolve from pre-rational, mythic-membership, ethnocentric, absolutistic version of the teachings toward a rational perspectival, worldcentric, postconventional versions of its teaching. A shift must occur from the ethnocentric beliefs (role-based identity) to a person-based identity for further change to occur. Persons of faith would benefit from the understanding that everyone's savior or religious icon could lead them into conscious perfection.

Most of the world's religious teachings are at very high levels of awareness yet many of the followers misinterpret teachings, create an identity out of them, or just do not practice or feel the underlying principles. The common error among many religious organizations is the continued knowledge and abstraction without the experiential quality of the religious experience or analysis of the social and cultural perspective (Integral Spirituality 85). Religions have followers from all developmental stages of consciousness who interpret the teachings differently. The integral model includes all religions from all perspectives to achieve an integral objective. Any individual from any religion can use a developmental model such as Wilber's because it does not take away anything from any religion, it simply adds to it (Integral Spirituality 202).

## **Coagulations en Route to Sustainable Being**

There are of course pathologies blocking the collective and individual consciousness from reaching a level of sustainable being. It is important for the individual and collective to observe the "rampant anti-intellectualism (instead of trans-intellectualism, which transcends and includes)." Additionally, the "anti-intellectualism and antirationalism (that quickly slides into pre-rationalism), unfortunately fosters and encourages a narcissistic approach to life, meditation and spiritual studies (as it slides from worldcentric to ethnocentric to egocentric)." Anti-

intellectual narcissism is exceedingly widespread in popular culture, new age studies, and in alternative colleges devoted to spirituality. Unfortunately in the “New Age” culture, egocentric feelings are confused with worldcentric feelings. Some alternative approaches to spirituality have almost become shallow, lifeless, and self-defeating. Wilber describes this common issue as the boomeritis syndrome which is when the postconventional, worldcentric levels become contaminated with the pre-conventional, egocentric levels. In Wilber’s description, the narcissistic level of awareness (characterized by self-centered feelings) is misperceived with higher level, worldcentric, postconventional claims (Integral Spirituality 105). Devolution is an obvious occurrence when an individual claims an evolutionary level due to perceived experiences of meditative states and multidimensional realities. Meditative experiences have mystified individuals at the green levels into a perception that he or she is at the indigo level (heightened level of awareness). These occurrences are part of the initial problem.

It is important for observers to witness the potential pathologies at any stage. Without witnessing the stages, difficulties arise in witnessing pathologies. Unfortunately, most modern religions do not realize that this perspective of the outside “I” exists. From this perspective, one can witness these pathologies are from outside of oneself looking in. The pathology is unrecognizable from the perspective of these individuals thereby becoming a self-defeating venture (Integral Spirituality 85). Appreciation of this concept is relevant for the advocates of sustainable being because the pathology creates a barrier between religions, cultures, theorists, spiritualists, ecologists, ego-rationalists, and any others who perceive themselves as right while claiming others as wrong. An integral model of religion, ecology, sustainability, medicine, technology, construction management, government, and any business will be all-encompassing, communicative, and open.

## Summary

This research has introduced the subject of consciousness and described its relevance in relation to the development of a sustainable being. In this chapter the focus has been on how one can realize the sustainable being within oneself. Unfortunately, it is difficult for many to understand this concept without direct experience of non-dual awareness. People have become so absorbed in the content of their lives that they have forgotten their essence, which is beyond form, thought, and content. Once one moves beyond, they can live as a sustainable being within.

When this expansion occurs in larger numbers, the world population will have the ability to move into these stages more readily (demonstrated in the theory of morphogenic fields). As humans move into these higher levels, the connection with nature is revealed as an ever-present energetic connection of non-duality. When people live at these heightened levels of awareness, they live in balance with the environment.

Table 3-1. Kinesthesiological counterbalances of humans at heightened levels of awareness

One individual at	Counterbalances
700	70 million individuals below level 200
600	10 million
500	750,000
400	400,000

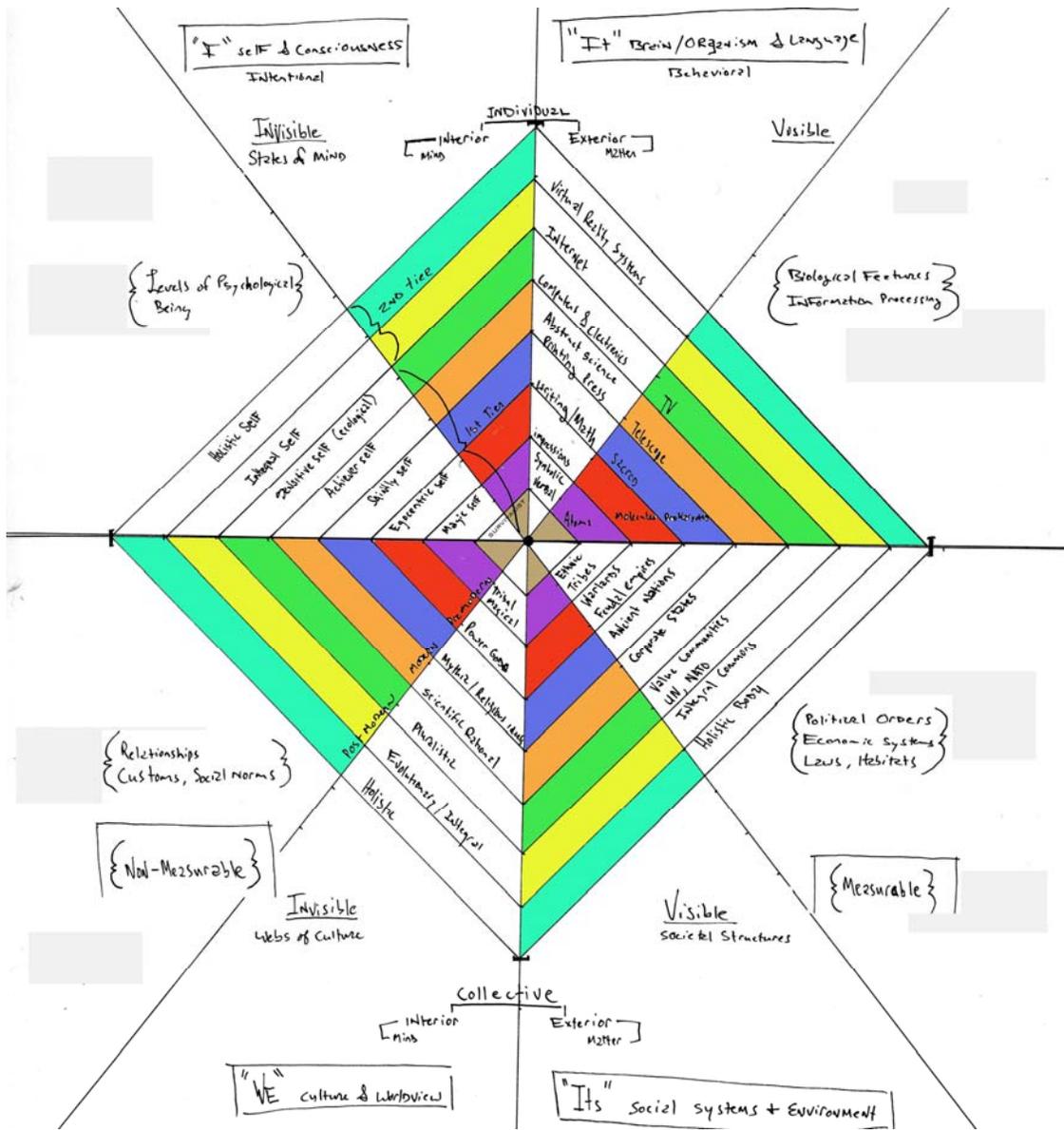


Figure 3-1. All quadrant all level map of human development

## CHAPTER 3 METHODOLOGY

The purpose of this study is to effectively identify, quantify, and communicate the effects of individual and collective consciousness on the environment, architecture, society, the green building movement and government. Research and understanding of the fields of theoretical physics, biology, transpersonal psychology, consciousness, modern technology, architecture, construction, ecology, public policy, planning and collective cultures has led to a unique approach to sustainability. The proposed approach will allow the observer to have a wider perception of reality, multidimensionality, intentionality, and a clear understanding of heightened levels of awareness, as they are reflected in the built environment. After identifying, synthesizing and analyzing current maps, experiments, cultures, worldviews, and research, the hypothesis was further justified as a causal factor of the environmental crisis. The methodology followed in this investigation was determined by the objective of the study and the hypotheses statements listed. The following steps were taken:

- Literature reviews were performed on material related to the effects of the collective and individual consciousness on the environment including research in the fields of: transpersonal psychology, ecology, sustainability, sustainable businesses, theoretical physics, architecture, construction, planning and public policies, collective culture and consciousness. Literature reviews were also conducted on the parallels between the rise in technology and a shift in collective awareness as related to the construction industry and sustainable being.
- Maps of consciousness were collected and analyzed. The research was used as structure for an independent analysis of reflections of these lower levels of awareness within public policies, design, planning, technology, and businesses. Research clearly indicates problems within these sectors as they relate to the development of human consciousness.
- Data were synthesized with relevance to the hypothesis and further used to develop a comprehensive proposal for the rapidly growing world. The concepts for the proposal were developed based on the framework created by the consciousness research.
- The Framework was adopted, analyzed, contrasted to the United States, and compared to cultures exhibiting the characteristics of sustainable being. A comparative cultural analysis with integrally developed countries was initiated to perceive and understand characteristics

indicative of the properties of sustainable being. These properties are sharply contrasted by those distinctions of the United States. The case study brings light to the proposed hypothesis in the context of a larger scale.

CHAPTER 4  
REFLECTIONS OF COLLECTIVE FRAGMENTATION

**Pathologies within Western Social Contexts**

Sustainable being is not based on any utopian idea nor is it about trying to become a good person. Although trying to be a good person is commendable, it will not alleviate our environmental dilemma because it is part of the same dysfunction of self enhancement. One cannot be good by trying to be good or be ethical by trying to be ethical; there has to be an internal shift in consciousness. Trying to get rid of the ego is a similar issue derived from the need to enhance the egoic sense of self. Fear, greed, and the desire for power are not the tribulations but are created by the dysfunction which is the deep-seated collective delusion that lies within the mind of all sentient beings. This state of being, which is perceived differently from the common human experience, can be difficult to comprehend for many humans, because they are detached from it. This shift in consciousness is difficult to comprehend for many because humans are detached from this state of being which is perceived vastly different from the common human experience.

Many Americans still reside at the lower level narcissistic worldviews paralyzed by their own inherent pathologies. Narcissistic individuals place very high levels of interest in themselves and their own importance. These individuals are often fragmented and devalue others. They often attempt to inflate their sense of self while deflating others. Consequently, development could be defined as the consecutive decline in egocentrism (Theory of Everything 17). Development involves the continuous decreasing narcissism and increasing cognition or ability to take other things, places, and people into account while increasing compassion. The worldview of many Americans sadly remains at the preconventional stages of development led by individuals mostly at the orange levels (ego-rationalism) with some blue (conformist)

intervention (according to spiral dynamics). The preconventional stage is the selfish stage where one is unable to take the role of others thereby remaining egocentric and narcissistic.

Environmental morals and ethics of individuals at this preconventional stage are motivated by fear of self destruction due to environmental degradation.

Individuals at the conventional (conformist, ethnocentric, or sociocentric) stage somewhat counterbalance many at the lower stages because this stage is the beginning of the caring stage where the individual begins to share the perspective of others and care for the approval of others. This individual would have the ability to step into another's perspective yet lack the ability to step out of their group perspective (Theory of Everything 23). Unfortunately, individuals at the ethnocentric or conventional levels of awareness still do not contribute significantly to positive environmental change but only prolong the inevitable downfall of natural order.

Real change will occur as leaders from multiple sectors develop into worldcentric and postconventional awareness. This stage of awareness is the emergence of universal care. However, the majority of people involved in the green building movement are acting from preconventional egocentric drives to help themselves financially or alter consumers' perception (conventional) of the corporation for financial gains. Misunderstanding has existed among these individuals between the preconventional and postconventional (because they are both nonconventional) which is labeled as a pre/post fallacy. This pre/post fallacy is seen in the advertisements for construction companies that "we are LEED-certified, so we deeply care about the environment." At the postconventional level, corporate morality will be motivated by a sense of connection with the wider community and environment. At the higher postconventional stages, the individual will adopt sustainable techniques because they believe it is the right thing to do.

The green building movement has become a marketing tool driven by egocentric needs for monetary direct or indirect compensation (preconventional) (Theory of Everything 24). The U.S. has generally failed to grapple with the entire spectrum of the development of consciousness which Wilber has called flatland. The inability to develop in the spiral of consciousness is demonstrated as a projection upon the U.S. government, planning, corporations, ecology, sociology, culture, technology, and architecture.

The integration of the cognitive model into government, schools, or management training programs could greatly impact the decisions affecting the environment. These concepts allow individuals in leadership positions to better understand and perceive all aspects and people involved in construction projects leading to an integral system of business and policy management. Highly developed leaders could set a tone for workers, colleagues, owners, and companions through osmosis allowing the channels of communication and perception to widen. Additionally, communication abilities are important for hitting similar degrees of complexity with another individual as the person or group being communicated too. When an individual seeks to recognize complexity, they can more effectively communicate, enhance mutual understanding, and be an effective spokesperson for this new paradigm.

### **Antiquated Ecology**

Ecopsychology, ecofeminism, and deep ecology emphasize the deeper self essentially connected with nature, however, the concepts are isolated only to the lower right quadrant and therefore outdated. These schools of thought propose the concept of treating nature in the same respect that one would treat themselves, which moves beyond a superficial ethnocentric sustainable action. Authors of these ecological movements take the experience of “Eco-Noetic Self,” the World Soul, and confine it to the Lower-Right quadrant (of Wilber’s model), to the concept that sentient beings are all strands in the web of life, right hand holism which actually

takes away the interior aspects of consciousness. The problem with these theories is that they reduce all life forms to a singularly focused map of the eco-social system. This map does not include the interior transformations that must take place in order for people to perceive this interconnected stage. Unfortunately, the experience of true interconnectivity and oneness is a feeling that only few experience daily on this planet.

The experiential quality of the web of life is inaccurately represented due to the simple fact that humans are not strands in the web of life but the whole web. This experience is unexplainable because humans generally do not perceive this stage of full interconnectivity. At this stage, everything becomes everything and everything becomes nothing. The observer becomes the observed as the consciousness becomes anything and everything that ever was or will be. Wilber states that, "Every unique organism is inseparably interconnected with its environment in dynamic webs of relationships and ecosystems." Unfortunately, systems theory and ecology do not deal with elevated states of awareness or worldviews. Systems theory isolates all realities to one quadrant which is called quadrant absolutism.

These maps cannot be referenced without the interior stages humans must experience to understand the entire system of interconnectivity. These theorists must account for the interior dimensions for a clear path to development. These interior dimensions left out by studies such as ecopsychology and deep ecology include: stages of consciousness evolution, cultural backgrounds, methods of interpretation, stages of moral development, methods of transcendence, expansion of self identity, and holarchical degrees of depth. Without these "left hand dimensions," the Gaia map (right-hand) will not provide a sufficient path toward sustainable being and global transformation. These theorists have unconsciously encouraged egocentric

regressive fragmentation and retribalization in consciousness through a preconventional approach to ecology (A Brief History of Everything 186-188).

### **Fragmented Planning Policies and Politics**

The United States has morphed into a consumerism-based mechanical process of feeding the masses while excessively consuming natural resources. Connections between the natural and the consumer have been replaced by urban sprawl and distance agriculture. Therefore, sustainable planning will involve the vertical localization of the needs of humanity. However, outdated zoning ordinances and fragmented policies do not support local farming but support importing produce (Tilman 2).

According to the United Nations Populations Division, the total human population is projected to grow to approximately 8 billion people by 2025 and approximately 9.5 billion people by 2050. At current annual growth rate of around 80 million per year, space will be a large issue of concern. Researchers have estimated that, “ $10^9$  hectares of new land (about 20% more land than is represented by the country of Brazil) will be needed to grow enough food to feed humans, if traditional farming practices continue as they are practiced today.” Currently, more than 80% of land that could potentially harvest crops is being used (Sources: FAO and NASA). Fifteen percent of this number has been wasted by inefficient farming management practices. While a disaster is seemingly inevitable, the government has been mandating the protection of wetlands and forests regardless of the fact that they are creating sprawl by already present zoning and building regulations including building height regulations (Tilman 4).

The amount of urban areas with more than 1 million people is anticipated to increase by over 40% between 2000 and 2015. Currently 80% of all Americans reside in cities and this percentage is rapidly growing. However, the concentration of humans in cities (which take up 2% of the earth’s surface) could benefit our species. Unfortunately cities are centers for the

production of heat, waste, and pollution. Local governments need to handle these issues of land planning and sustainable development now so many problems will be alleviated in the future. The government has failed to make the connection that growth management, urban sprawl, and sustainable development are interrelated issues (Barbanel).

Unless zoning and land development codes are altered to allow, or require, mixed use and high density development, hypersprawl will continue to infect our states making them unlivable. Contemporary zoning and land development codes promote urban sprawl by restricting the density or amount of residential development due to concerns about traffic, infrastructure or public service costs associated with significant new residential development (Ziegler).

There have been many concepts, trends, and ideas that have led to unique developments, changes, and additions to the urban built environment. Fortunately, sustainability has recently become an important goal in the evolution of developing cities. The awareness has occurred that the most effective planning involves a dense, well-planned and structured city. This concept of sustainable development has been distorted and changed into a tool for new urbanists to make money while promoting a new sprawl. Recent trends have affected the progress for these “ideal cities.” These influential trends include, but are not limited to, globalization, localization, new urbanization, and hypersprawl.

Agricultural land is in the rural areas and is the heart of food production. The land designated for industry and building are in urban areas and are obviously the centers of food consumption. Unfortunately, many regulation boards and governments feel the necessity to keep buildings at a “human scale,” (three stories maximum) thereby encouraging sprawl. As time passes and the necessity becomes more urgent, these governments will have the opportunity to evolve and implement these needed deregulations.

Almost half of the world's population presently resides in cities and large towns. This number is predicted to rise greatly in the near future. Cities have massive potential as cultural centers, economic epicenters, spaces of innovation, and sites for the efficient synchronization of collective intellect. Cities can potentially expand social, environmental, and economic problems. Problems that we currently address include unemployment, poverty, discrimination, infrastructure, traffic congestion, criminal offenses, violence, and negative health issues. Upon examination of these issues, one can see how they are all reflections of human consciousness. Urban governments have a responsibility to facilitate sustainable being for the citizens and future residents within the context of local environment (Tilman 2).

Governmental policies and zoning regulations have become an important part in shaping the urban landscape. The federal government has previously adopted numerous programs with the intention of motivating low density tangential development around cities. These programs adopted the policy of "defensive dispersal" sprawl for the sake of national defense. This policy would reduce the potential casualties from an enemy attack. Designing for disaster (which stems from fear) should not be more important than the destruction of the planet. If the U.S. government spent a fraction of its 200 million dollar a day budget for highways on the improvement of mass transit in urban areas, cities would be denser (Wendell).

Modern zoning and local growth management have created a hypersprawl pattern of development. Local growth management and programs such as "smart growth" zoning is followed through by land use activists for the public interest and to protect the natural environment. Ironically, these programs promote low-density sprawl in metropolitan areas. Current urban planning and growth management regulatory programs are likely to encourage, rather than to curb, the automobile-dependent hypersprawl pattern of development (Wendell).

The dominant pattern of growth in the U.S. continues to be urban sprawl. Sprawl is defined as “low-density suburban and exurban growth that expands in an unlimited and noncontiguous manner outward from the built-up core of a metropolitan area.” This orange level with no blue-level intervention prototype of development is linked with the automobile-dominated "hypersprawl" landscape that came into existence in the late twentieth century. This hypersprawl is apparent from the fact that the outer rings of cities are growing faster than the inner cities. Additionally, half of all the offices and shopping malls that exist in this country have been built since 1980. More than 80% of the existing housing stock in the United States has been built since the end of World War II (Tilman 2).

Low density urban sprawl has allowed fewer people to utilize a greater amount of space. In 1920, there were about ten people per acre in America's cities, suburbs and towns. In 1990, there were only four people per acre. Between 1990 and 1997, “the housing stocks of low-density metropolitan counties increased by 15% while stocks in high-density core areas increased by only 5 percent.” (Ziegler) The density of sprawl in the U.S. is comparatively low, resulting in hypersprawl. However, European development densities are over ten times greater than U.S. development densities. The hypersprawl built environment consists of segregated developments connected by arterial roads and highways thereby making the car a necessity. Many Americans currently live, work, and shop five to thirty miles outside of major urban areas (Tilman 3).

The automobile has defined urban landscapes allowing the hypersprawl to continue escalating. Without the automobile, the sprawling urban landscape would not exist. Additionally, other contributing factors to the hypersprawl include decentralizing technological changes in commercial transportation, information systems, and telecommunications. Higher gas prices will be needed and beneficial in promoting the trend of verticalization.

U.S. communities are reflections of human consciousness that is currently characterized by privatization, fragmentation, and dislocation. The essential interconnectivity to the whole has been replaced with isolated suburban homes. The public has become victims to the excessive consumerism-based world, where people have become victims to themselves. Moreover, a sense of place once inherent in communities has been replaced by the McDonald's and Starbucks from which you could occupy anywhere in the world with no clear delineation or sense of place within the broader context.

Author and researcher Polly LaBarre has researched this topic and stated that, "The cost of our wealth to other societies and the environment has been well documented. But the greatest toll might be on us. Between 1970 and 1999, the average American family received a 16% raise (adjusted for inflation), while the percentage of people who described themselves as "very happy" fell from 36% to 29%. Americans are better paid, better fed, and better educated than ever. Yet the divorce rate has doubled, the teen-suicide rate has tripled, and depression has soared in the past 30 years." The conclusion is inescapable: American lifestyles include more stuff, but Americans lead emptier lives. Americans are clearly consuming more but enjoying it less (Ziegler). This quote is a positive indicator that some Americans are clearly moving beyond the drive for excessive consumerism and materialism. As Americans become wealthier they are realizing that the money they had fought so hard to achieve has no real value besides improving a living situation.

The government has been creating several public service infrastructures to support sprawls. If the cities were made denser, the local governments would save millions in infrastructure support. However, outward expansion and core deterioration is characteristic of modern sprawl. At different holons in the government system, decisions are made regarding

planning and zoning by individuals at the pre-conventional levels of development.

The current hypersprawl causes Americans to consume more resources per capita than any other country in the world. The average person's environmental degradation in the U.S. is estimated to be about 50 times that of someone in India. This number would be reduced greatly if communities were denser and internal shifts occurred (Tilman 2001). Unfortunately, India and China are growing rapidly and demanding similar material possessions which Americans value so greatly. Unless internal shifts occur, pressure from growing countries will burden environmental stability to the point of severe imbalance. Thus far regulations (blue) have not positively contributed to this shifting need for sustainable alterations.

In the prominent U.S. Supreme Court case, the Village of Euclid, Ohio v. Amber Realty Co., the Supreme Court upheld the constitutionality of the zoning code. The court decided that the city "may properly regulate the use and development of land to avoid mixing together business and residential uses and to protect low-density, detached single family homes from higher-density apartments." The court held that the homeowners may be protected by zoning from apartment units and the people who occupy them. The court surprisingly stated that these apartment houses operate as "a mere parasite" in the communities around them. The statement by the court was a clear reflection of the perspective at this time period.

This court decision has been in effect through the twentieth century to constitutionalize local government decisions to ban underprivileged housing from neighborhoods and other suburban areas. Since this decision, the Supreme Court has replaced these non-politically correct comments with the concept of allowing neighborhoods to avoid "urban blight" by saving the architectural aesthetic of place. Court decisions such as these have given the local governments the authority to restrict zoning for multiple family units. These decisions promote the single

family homes in these suburban areas to remain less dense for the sake of meaningless concepts. Consequently, local governments have now begun to adopt policies to restrict land use to preserve the natural environment and further alleviate the hypersprawl which they created (Ziegler).

Another failed zoning technique is the Euclidian zoning, which utilizes fixed legislative rules that encourage low density areas. The Euclidian zoning technique requires a severance of dissimilar uses of the automobile in these single family low density developments. This zoning technique is currently used to separate the different land areas such as residential, commercial, and industrial. In this system of zoning, the large land area zoning would increase the costs for the owner and promote sprawl without limiting the development. This type of zoning has many racial implications and further divides the social classes while devaluing connectivity. Euclidian Zoning operates within the orange level of development yet some newer zoning codes are more restricting (blue) than the Euclidian zoning. The most modern and common building codes regulate lot size, parking, building size, height, setbacks, aesthetics, landscaping, and floor area. If the government does not allow changes in these codes, growth damage will be devastating. Unfortunately, the government has allowed the number of zoning districts to increase thereby strengthening their regulatory power over smaller parcels of land (Ziegler).

The current professed “smart growth” zoning codes have been adopted to protect nature and ecological areas. These programs could also include growth caps, impact fees and their stringent requirements. These means to an end do not eliminate the current problem but add to it. Modern zoning codes have promoted a continuous pattern of low density development and hypersprawl. Hypersprawl not only forces the continuous road construction but requires more land for the suburban areas which place houses (set back) on large parcels of land. Most of the

local homeowners are worried about change and especially about the lifestyle change that comes along with vertical development density in their neighborhoods. This sense of worry and concern comes from the need to protect one's identity or self separate from others. This need to protect the ego and local self interest is the same part of the common dysfunction. Local zoning codes have been dominated by this local self interest and privatization. Ideally, natural habitats should be protected from growth and cities could be mixed use, high density pedestrian friendly cities that invite more vertical growth. Current regulations restrict city growth and vertical development. These regulations need to change in order to accommodate for current and future city growth with mixed use high density living (Ziegler).

Much concern has arisen from local governments due to possible transportation issues with high development density, thereby promoting additional sprawl. Developers have chosen to locate new residential areas further away to release the troubles of urban development. The developers save money on the price of the land and code and regulation issues. A better option would be to strengthen public transportation.

Urban development is broadened into metropolitan areas over larger territories to relinquish immediate higher density areas. These metropolitan areas extend along with sprawl thereby creating massive sprawl and promoting excessive fossil fuel use. Individualized local governments are then created by the incessant sprawl covering hundreds of miles. An example of this trend is witnessed by Chicago which has 265 local government units which have the ability to zone and grow independently of one another. Chicago's population in the metropolitan area has increased by less than 4%, while the quantity of land dedicated to new residential growth augmented by 46% (Tilman 2). This apparent lack of interconnectivity has been part of

the initial problem. This low-density hypersprawl has increased the quantity of recently developed land which is greater than the population (Ziegler).

The first step in a new zoning and planning initiative will involve regional cooperation by local governments to combat the problems of hypersprawl in an intelligent manner. Without collaborated efforts to adopt a new development program, mistakes will hinder true progress. Portland, Oregon is an example of such a zoning disaster. The state law required a zoning plan that created an urban growth boundary. This plan has been operational for 20 years with no success, causing more harm than good. The growth boundary was set far-flung from the urban city center. The zoning ordinance was updated in 1999 to include an extra 5,300 acres to this growth boundary (Tilman 1).

Urban planners and architects started a movement in planning (new urbanism) to alleviate the rampant suburban sprawl. Congress for New Urbanism has promoted these walkable towns to promote a sense of community. Congress for New Urbanism promotes the reorganization of public policy and development practices to foster the restoration of existing urban centers and towns within metropolitan regions. The concept behind the seaside new urbanist town is that it would be zoned to be small and slightly dense, thereby allowing people to walk from stores to public spaces. The streets encourage pedestrian use and cause traffic congestion through their narrow design. Unfortunately this attempted New Urbanism has an artificially uneasy quality to it. Additionally, these communities are disconnected from the larger cities and set aloof in suburban areas while lacking the building height to allow for large growth. The idea behind creating these communities is to alleviate sprawl, however, they in turn create sprawl. The concept of the movement has been therefore compromised through the dislocation and development and raw land. These examples have been unsuccessful for these reasons and

because most of the people living in these communities have to commute to work because they do not live in the area. It is a matter of irony that sprawl is created by people trying to escape it. This community is a small sprawl away from sprawl. Additionally, people do not want to look out of the window of their “cookie cutter” mass-produced home and see its clone only a few feet away. New urbanism and zoning laws are becoming apparent contradictions in these exponential times.

Law has clearly mandated regulations to protect the wetlands and nature from pollution. However, these laws are contradictory to our current zoning regulations. Local governments have failed to notice that by placing a low limit on building heights and units per acre (in the case of condominiums) they have condemned these natural areas to failure. Low buildings promote sprawl and the use of the automobile. Low density cities will soon need to be replaced to make room for population growth. During this time period, materials resources will be exhausted and new materials will necessitate extraction for the newer structures. These laws and policies are clear indications of the inherent inability to defragment and gravitate toward centralized living (Tilman 2).

Architecture constructed from this Newtonian perspective has bombarded the American urban landscape and severely crippled the evolution of human consciousness. Based on fragmentation, privatization, and egocentric-driven worldviews, many humans have needed to separate themselves from others. Architecture has served as a barrier to guard humans from the natural elements. This sense of separation is now prevalent everywhere in the United States with fenced-in property boundaries and gated communities. This form of architecture is an expression of the collective consciousness. This architectural expression shows a desire to maintain a sense of separateness from otherness. The new green building movement is beginning to reflect a new

sense of how space can be occupied to be more in alignment with natural systems. Hopefully, corporate leaders will adopt these strategies into a monetarily driven industry.

### **Construction Corporate Analysis**

Government officials and public organizations are not the only important units for true sustainability. Large corporations and their leaders play an instrumental role in this shift. Unfortunately, many businesses are completely profit-oriented so simply asking a company to become more sustainable or feeding them this information may have no relevance. This would be like asking a businessperson to deliberately lose money which is the opposite of the business objective. In the case of business, decisions are made by individuals who watch for trends and witness how profit can be achieved through these trends. Successful business communication that can occur with success would be to simply map out the financial benefits from implementing sustainability techniques. At this orange level of development, the only benefits are surface and transitory. Business entities are adopting sustainable business approaches due to future savings, mandates and public image. Government entities are now adopting techniques due to mandates (blue) and because they have realized that fossil fuels will be too expensive or nonexistent in the near future.

In these cases, sustainability has been reduced to an income-generating trend. Businesses do not implement sustainable techniques that do not generate or save money directly or indirectly nor would they have any reason. Many business executives believe that the law of economics (reduced energy use=reduced costs) will drive the green building movement. Bill Heenan, president of Steel Recycling Institute, states that "If we mandate it, industry will move to other parts of the world." These corporate leaders also believe that, "Without an economic approach, it won't work; the greenback is what will ultimately drive the green movement." Now owners and industry are varying out of necessity especially due to lawsuits. Industries are beginning to

internalize costs that have been historically externalized. Industries will begin to pay for carbon emission costs as part of the general operating expenses (Rubin).

The President and CEO of NRG Energy Inc., David Crane, stated the importance of doing something about the carbon issue to Engineering News Record by saying "we could be perceived like the tobacco industry." These simple comments are clear indications of the perspectives of business owners in reference to the green building movement. Some corporate presidents are worried about their future reputations, some about current profits, and others about financial status. How can anyone expect these people to change their habits and perspective? From their perspective this movement is hurting their business and the employees (Rubin).

Sustainability has become a market-driven movement where the only impetus for change is rising energy costs and increased global competition. Although economic and environmental progress is intertwined, real and lasting change will not occur without an inner shift. When investigating deeper aspects of reality and experiencing the causal body, the internal dialog shifts from me to us then to all of us. When this occurs, a level of sustainable being will arise and balance will occur. At this level of being, these concerns of business owners and employees disintegrate.

The current programs established to combat global warming and promote green building design are actually doing the opposite in many cases and attracting fear. Although a noble venture, these institutions are fragmented and specialized while only making surface differences. These programs ignore the root causes and expect individuals to make changes in their daily lives which most are not willing to do. Real changes will not come about without a shift in the level of awareness toward an interconnected state of being. The illusion of separateness created only to strengthen the false sense of self needs to be relinquished for change to occur.

The companies' sustainable policies are a reflection of their morals, values and corporate culture. Formal training, written policies, cultural influences, communication methods, information management, and company relationships are translated and reflected into the projects. Stated policies and actual behavior and action are often unique and dissimilar. The company head also sets the tone for the perspective of the rest of the company. The company head must set the standard for greatness but the management group must also carry it out. Ideally a business leader will have a great vision for sustainability and personal development, and passionately drive it throughout the company so all stakeholders and employees share an integral vision. This corporate development will spawn exponential changes in the green building movement.

Businesses and environmentalists will have to move past the fact that orange meme business cripples environmentalism; ecological green meme cripples orange business; both are part of the initial human dysfunction discussed. Wholeness from business and environmentalists will be achieved by understanding between capitalism and ecology. Hopefully, a developing system such as LEED can act as a catalyst for this comprehensive approach.

### **Green Building Practice**

The green building design movement has spawned from the need to alleviate problems in the construction industry that damage the health of the occupants as well as the earth. The consequences of collective actions have become blatantly apparent. Although the "Green Building Movement" has made many positive contributions to the planet, it is now important to step back and understand the root cause of the current environmental condition.

Unfortunately, the current pace of the sustainable practice is slower than the environmental degradation and resource extraction. Additionally, current modes for environmentally sustainable practices tend to focus on the symptoms while ignoring the cause. Some may go as

far as to say that these apparent problems cause the current environmental crisis. Humans have often displaced blame rather than looking within and taking personal responsibility or even group responsibility. An example of this is how the construction industry and built environment has been perceived as partly at fault for the environmental degradation. The external environment is only a product of the collective thought at any chronological time.

In the recent 2010 imperative, experts from around the world have united to achieve an ecological literacy within the design educational system (Mazria 2006). This group generally focused on developing the following areas of study:

- Design / studio (upper left exterior)
- History / theory (lower left)
- Materials / technology (right hand quadrants)
- Structures / construction (upper right)
- Professional practice / ethics (lower left)
- Implementing sustainable design strategies (optional - LEED Platinum / 2010 rating) (upper right)
- Generating on-site renewable power (upper right)
- Purchasing green renewable energy and/or certified renewable energy credits (recs, Green Tags), 20% maximum. (upper right)

A system such as this could benefit greatly from a more integral method of development that includes more aspects of the upper left and lower right. Coordination, communication and collaboration across industrial and political boundaries are all aspects of this integral approach to sustainability. Moving toward ecologically benign construction is a step in the right direction, however, the changes need to be made more rapidly and research needs to be completed from passionate researchers who have an understanding of human development and multidimensionality.

Other “sustainable groups” such as the Go Green Initiative (which educates the youth) utilize scare tactics and will not be effective until the damage is irreversible and self destruction is eminent. Environmental education for the youth involves education without scare tactics and teaching about the symptoms instead of teaching the causes. If children are conditioned to become less egocentric as they age, the manifested will reflect the shift from “me to all of us.”

Helping children evolve and utilize a life practice comfortable for them can bring about enormous change. In early developmental stages, children could adopt a comprehensive model (such as Wilber’s) to accelerate evolution through worldcentric perspectives. This early transition will greatly accelerate their level of intelligence and awareness. Hopefully, the rampant use of technology in the youth today will have positive impacts on collective awareness.

### **Technology**

The whole world population will soon have access to globally destructive technology with less than 30% of the population at levels to safely handle it. In a new world marked by globalization, the world will have access to boundless information. The rise of new technology and unlimited access to it is a clear indication of shifts which are beginning to occur without the limitations of the blue meme. Unless humans can rise to higher states of awareness, this unbounded information could potentially lead to worldwide devastation. Technology is exponentially empowering the observers’ ego to create what they emanate. Whatever an observer believes becomes manifested through the internet with all those who follow similar beliefs. Any perspective can now be backed up by similar individuals with paralleled perspectives.

### **Modernization of Technology without Fruition of Consciousness**

The digital revolution has spurred the information age which is allowing users to perceive space and time in a different way than ever before. Global communication has made

developments in consciousness available to the interested (Theory of Everything 37). Although technology is an important aspect in the development of human consciousness, technological growth needs to develop simultaneously with both left and right hand quadrants. Unfortunately right hand quadrants (exterior development) have generally come before the left hand (compassionate, interior development) use of technological advances. Exterior development (now technologically powerful) has not encountered enough interior development to make worldcentric environmental changes. People at lower levels of development now have access to technology that could produce catastrophic effects on the planet such as an atomic holocaust. This has become a large problem because of the lack of integral development (Theory of Everything 104). Globalization, the rise in nanotechnology and artificial intelligence could allow positive contributions only if right hand growth is met with the growth of the interior consciousness. Lack of integral growth could potentially signal the fall of the human species. Drexler's "Grey Goo" phenomenon is an example of this (Appendix-C).

If humans continue to focus on exterior technological wonders such as enhancing longevity of life, there will only be more underdeveloped humans using technologies not fit for their developmental line.

### **Societal Conditioning and Cultural Values**

Many current societal choices within the United States result from the political and media stress, emotion, realism, and vested interest. The critical decisions that affect the lives of everyone on the planet are made under unconscious conditions that nearly guarantee environmental malfunction. An obstacle of humanities evolution has been the lack of knowledge of the nature of consciousness. However, globalization could rapidly accelerate the evolution of consciousness or lead to societal downfall.

Societal conditions at the blue meme establish a framework that generally corrects effects instead of causes which lead to a leisurely evolution of the human consciousness. Lack of knowledge about the human species has held mankind back from the level of sustainable being. Hopefully, the information age will open doors to the recognition that answers by no means arise from identifying causes in the world of form. Instead, it is important to recognize the circumstances that underlie the ostensible causes which exist only within human consciousness itself. A dependable answer to this problem cannot be found by isolating sequences of events and projecting upon them a mental notion of causality. Some green building tactics are exemplary of this methodology of problem solving. No causes exist within the observable world or built environment. This physical planet is a planet of effects (Hawkins 19).

The U.S. is somewhat characterized by individuals at the level of the egocentric and ethnocentric that have not and will not care about the environmental crisis unless it directly affects their lives. Many people at these levels have a narcissistic perspective that can only be manipulated by scare tactics which only reinforce the self-centric survival motives that were formally a cause of the problem. Sustainable being is about the postconventional worldcentric level at which people can recognize and truly feel nature, and humans from a global perspective thereby acting from an elevated level of awareness. Human survival depends on a significant increase in the number of individuals at the postconventional / worldcentric level of development. Global consciousness through inner growth is the only solution to the current environmental problem because this upper left quadrant has not developed in parallel to the upper right. When humans evolve to the worldcentric level of awareness then global agreements can be made beyond ethnocentrism to address any problems directly at the cause (Integral Spirituality 300).

## **Summary**

The built environment has been developed and grown without the needed attention to the development of human consciousness across the spectrum. When human consciousness can expand and grow at the rate of technology and the built environment, positive environmental changes will occur naturally. This chapter covers the internal problems within many subjects to allow the reader to widen their perspective of this core issue that humanity faces. When one visualizes the expansiveness of the issue they can witness the further manifestations among other fields.

CHAPTER 5  
MANIFESTATIONS OF SUSTAINABLE BEING WITHIN CULTURAL CONTEXTS

**Sustainable Development and Public Policies**

Comprehensive sustainability and ecological public policy could embrace the exterior sustainability issues (green building techniques and renewable energy) as well as the interior issues (human development). Current political perspectives are grappling with these same issues which hinder further political development.

Uniting liberals and conservatives could integrate two large parties in the US. Generally, when it comes to the cause of human suffering, conservatives tend to believe in interior causes while liberals usually blame external social institutions. Liberals further recommend social interventions such as the redistribution of wealth and changing societal institutions so they produce balanced outcomes.

Generally, liberals seem to believe that the solution to the illnesses of the social institutions is the more material economic freedom; thus they see economic equality as a solution to human suffering. Many liberals completely ignore the interior levels of human development and simply focus on the exterior. Traditional liberalism is inherently self contradictory because it calls for equality and freedom yet it denies the ability to attain both. Liberalism is a product of higher levels of interior stages of human development-yet it denies the existence and importance of the interior levels of development. The liberalism stance is therefore a product of the stages that it denies (Theory of Everything 87).

Conservatives recommend instilling family values, demand that individuals assume more personal responsibility, and they pull the slack on moral standards (by embracing religious beliefs), and encouraging work ethic.

A comprehensive approach to politics would include both these interior and exterior levels of development because they both carry applicable truths. Sustainability operates in a similar manner of isolationism. The typical liberal does not believe in interior causation or sometimes even interiors for that matter. They disregard that the interior has its own stages of development?

Liberals focus on ways to fix the economic, social institutions, and exteriors while ignoring the interior (interior development, meaning, values). The conservatives on the other hand embrace the interior development but only on the level of religious ideals. In the case of sustainability, the only direction is currently the upper right quadrant or material external solutions (Theory of Everything 88).

A new politics could embrace the worldcentric/ postconventional levels of development while equally encouraging the interior and exterior development. Ideally, an integral political system would develop social, economic, and material well being. The purpose of a new political system would not be to get humans to a level of development but to help develop the entire spectrum of development at every level.

Sustainable development has now become a concern with only a few examples of large scale improvement. The twentieth century development has been characterized by the continued American dream of privatization and disconnectedness from the urban fabric (which arises from fear). The limiting perspective of the sprawling movement is becoming apparent to many Americans especially during this time of high gas prices. The status quo is a self reinforcing drive for security and privatization, thereby being less connected to the whole.

Local governments have established programs to control urban growth with zoning regulations, yet they mandate low density isolated urban sprawl which depends on the use of the

automobile. These programs have contributed to the disintegration of city centers and the dislocation of developments. Attempts at further regulation and growth boundaries have resulted in the further expansion of growth values. When more humans rise to the level of a sustainable being, progressive strategies will be adopted for this modification. Urban planning will need to adopt new techniques to deal with the issues of today through the adoption of sustainable high density planning (Tilman 4).

Modern zoning regulations need reformation to require high density mixed use development. Along with a shift in consciousness, state and federal public policies that promote hypersprawl development could integrate with multidisciplinary professionals to include transit-oriented high-density development. Additionally, current fiscal policies that encourage expenditure of accommodations, earth and energy necessitate reconsideration and modification. As consciousness shifts, the perception of otherness will begin to fade, allowing densely designed structures to become more prevalent within human societies. Humans will be drawn into communing with others and sharing a bond that transcends superficiality. As sentient beings further evolve, there will be a successive decrease in egocentrism thereby relieving pressure on natural systems (Tilman 3).

### **Concepts for Post-Conventional Sustainability**

A perceptual shift will allow humans to adopt the new sustainable high-density planning. Implementation of progressive design techniques will encourage this movement back into the city centers. These high-density mixed use city centers will act as epicenters for this heightened level of awareness thereby attracting others and nature to these sustainable communities. Creative design and planning will also attract individuals of all types into these centers thereby alleviating the massive urban sprawl. These cities will be designed in harmony with natural order and standards, thereby acting as self sufficient living cities (Tilman 4).

These responsible developments will incorporate ecosystem-oriented governance mechanisms and planning while reevaluating the legal boundaries of jurisdiction to achieve an integrated synchronization between the limitations of political, environmental, and economic environmental systems. In the development of mechanisms to prioritize urban land management, it is important to recognize and address basic human needs while intuitively preparing for responsible future development. The establishment of basic guidelines for the sustainable planning and development will need to include issues of land resources, infrastructure, transportation, and intergovernmental policy harmonization from the blue meme (Moe 1).

There have been some recent trends setting precedence for sustainability by becoming more localized and dense thereby creating a better sense of community. Localization allows a community to increase its awareness and sustainable practices through the use of government action. Each site has its unique social, economic, and environmental constraints which influence the policies of the location. Localization has been attempted through mandate, decentralization, constitutional change, and the redistribution of power (Wendell 3).

### **Reflection of Change**

Enhancement of existing cities will be crucial in future development. Improvements could include more vertical development and weaving of the natural phenomenon into city urban fabric. Such an example is New York City's urban renewal program. The New York City Department of City Planning has developed and altered the zoning district on the west side of Manhattan to change a former manufacturing area into a mixed use green community. An old elevated rail has been reused for this project thereby creating a 1.5 mile long green open space. This planning job was awarded the American Planning Association's 2006 Outstanding Planning Award for a Special Community Initiative. The initiative also includes the creation of new housing for West Chelsea and protection of the cultural epicenters. This development has also

helped the owners of the buildings under the rail line to engage in the newly defined culture. These innovative planning techniques allow the natural phenomenon to become a part of the urban landscape (Raynoff).

This expansion of New York's inclusionary zoning has allowed 5,500 new units to be developed including affordable housing. The zoning that was altered has strengthened the fabric of West Chelsea and protected the city's premier art gallery district. The building owners originally urged the city to tear down the High Line unbeknown to the value it could create for their property. The new zoning has stipulated that 22 percent of the new housing will be affordable to moderate income housing.

This technique will positively benefit New Yorkers yet more progressive changes will need sooner implementation due to population growth. Unfortunately, the zoning regulation changes in the United States are meager in comparison with the aggressive movement to rebuild urban infrastructure in more progressive countries (Raynoff).

### **Healthy Spectrums**

To achieve a sustainable society, changes will occur within all spectrums of spiral dynamics and all quadrants of AQAL. Without human development these changes will not have the impact needed for true change to occur. The proposal of sustainable being is not to be confused with over idealistic concepts. Humans do not need to experience full unbounded awareness for great perceptual shift to occur. Human development generally happens in waves where some develop further and faster than others within their level of development. As the general population releases egocentric sentiments, profound openness will allow these major changes to occur with ease. At this level humans will understand that healthy development involves the realization that an individual has thoughts and feelings but they are not their thoughts and feelings. This observer is no longer identified with the thoughts as a subject but

owns them as an object. Ergo, healthy development is the adaptation from 1<sup>st</sup> person subjective (I) to 1<sup>st</sup> person objective or possessive (me/ mine). This healthy expansion converts I into me; unhealthy maturity converts I into it (Wilber 129). This perception allows an openness to occur from which a true sustainable being may emerge.

### **Ideal Integral Culture**

It is important for the world to have a fundamental approach to the environmental situation by integrating the approach in all aspects of life for exterior sustainability. However, there must be a shift in consciousness towards worldcentric levels and values. The continuous focus on the exterior solutions with magic bullets will only continue contributing to the problem of environmental degradation. The self, culture, and natural systems can only become liberated in parallel for balance to occur within the holarchy of planet earth (Wilber 30). The sustainable being ecological approach rethinks environmental issues and how the issues can be practically addressed and cured at the cause. The continued focus on exterior solutions is contributing to the problem itself while the core cause is unaddressed.

Sustainability has not yet perceived the problem from these unique perspectives perspectives. Sustainability currently falls only under the upper right hand quadrant of Wilber's map because it deals mostly with the physicality. The integral model displays that every event has four dimensions (but not limited to four) to it and all dimensions must be taken into account in order to successfully treat the cause instead of the symptoms. Sustainability is lacking the upper left quadrant which focuses on the individual's emotions because in this quadrant the self evolves from egocentric (me) to ethnocentric (us) to worldcentric (all of us). Additionally, development in the lower left (we) quadrant is necessary for ethics development. The lower left elevates from the egocentric (me) to ethnocentric (us) to worldcentric (all of us) which allows the societal systems in the (its) category on the lower right to increase from simple groups to more

complex systems such as globally united systems. At this lower left quadrant, the cultural evolution will move in waves at a larger scale as seen from morphogenic fields. The concept of morphogenic fields is that when one group or individual evolves past previously perceived boundaries, it becomes easier for others to break the boundaries. As time passes, evolution speeds up at an exponential rate due to the energetic field created by others. When many humans can evolve to second tier levels, it will be easier for others to progress forward through their evolution.

What the world needs now is the first second tier form of worldcentric ecological standards. The unique approach would combine systems theory, ecological unity, and nondual spirituality. These approaches combined without the web of life concept (reductionist flatland conception) combined with an all quadrant, all level perspective will lead toward an integral ecology and sustainable being. This approach will allow the composition of the physiosphere, the biosphere (life, body), noosphere (mind), theosphere (soul/spirit), and their relationship with the whole universe. From this perspective, the importance of the biosphere can be emphasized without the isolation of everything to the biosphere (Theory of Everything 97). According to Wilber, the mind transcends and includes the body; the noosphere transcends and includes the biosphere. The biosphere is an important component of the mind but the mind is not an important component of the biosphere. The human mind (noosphere) could be ruined but life will survive quite well, but if life is destroyed, the mind will be destroyed as well.

The right hand half of ecology suggests that everything is a part of nature and that nature is the ultimate reality and that humans should live in accordance with nature. However, the interior or left hand aspects (sensory, empirical dimensions) conclude that nature is only a small part of a much bigger holon. In a sense the left has been confined only to the left (on the AQAL map) and

the right has been confined only to the right. The right restricted only to the right would be considered ecological reductionism where the entire environment is confined to the lower right quadrant. The all levels all quadrants approach allows the observer to understand all aspects of natural systems without the isolation of any single element to any other. This comprehensive approach allows one to recognize the important role that each perspective takes part in the whole system (Theory of Everything 97). Once different perspectives can be taken, ethical principles could be examined.

Environmental ethics usually centers on axiology (the study of types of value judgments) which is the theory of values. According to Wilber, the four schools of axiology are bioequality, animal rights, hierarchical or holarchical, and various stewardship approaches. The concept of bioequality ties into deep ecology in that all living holons have equal value. The second idea is variations on animal rights issues. The basic rights in this case should extend to those animals that have feelings; however different theorists draw the line at different animal types. The third school is the hierarchical or holarchical which perceives evolution as a holarchical unraveling where more complex beings possess more rights. The fourth concept involves various stewardships approaches such as the concept that humans alone possess all of the rights, however, those rights include the care and stewardship of the earth and its lifeforms. At the higher levels of awareness, these concepts disappear and what is left is a subtle caring and love for every being which is perceived as within oneself. Although these schools of axiology are important, they have no real depth or meaning without interior shifts and societal shifts.

Ken Wilber's school of values includes the ground value, intrinsic value, and extrinsic value. The ground value concept states that every holon has equal ground values meaning, from particles to mammals, all holons are perfect creations without exception of value. Each holon

would be a perfect expression of its individual manifestation. Each holon has its relative wholeness or partness. As a whole, each holon has an intrinsic value (value of its wholeness) and its own unique depth. The more of everything that is enfolded into one's being is the more of everything that enfolds into one's being. Therefore, the greater the depth one can attain, the greater the intrinsic value. Holons are not only the whole but they are also part of the whole and it has value for others as a part of the whole. Essentially, it is part of the whole and other holons depend upon it for their existence. Each holon has an extrinsic value (value for other holons) as a part of the whole and the more it is a part, then the more extrinsic value it has. Wilber uses the example that “an atom has more extrinsic value than an ape—destroy all apes, and not too much of the universe is affected; destroy all atoms, and everything but subatomic particles is destroyed—the atom has enormous extrinsic value, instrumental value, for other holons, because it is an instrumental part of so many other wholes” (Integral Spirituality 302). This example expresses the fragility of the series of holons creating everything in existence. The biosphere is made up of ecosystems which are made up of organisms that are made up of cells that are made up of molecules, that are made up of atoms that are made up of subatomic elements. These parts composing hierarchies are the fragile holons that make up all sentient beings.

Humans have had difficulties perceiving how rights and responsibilities are inseparably linked. These are “inherent aspects of the fact that every holon is a whole/part” (Integral Spirituality 289). As a whole human form or holon, a holon has the right to express its relative self expression. However, these rights are just conditions of its existence to sustain its wholeness. If the rights are not adequately met then the wholeness falls back into subholons. For example, if an animal doesn't get food, or a plant does not get water it will shrivel and die. “Rights express the conditions for the intrinsic value of a holon to exist, the conditions necessary

to sustain its wholeness, sustain its agency, and sustain its depth.” In reference to the environment, it is important to notice that each holon is part of another whole (fractal) and as a part, it has a responsibility to the sustainability of that whole. If it does not meet the responsibilities of the whole then it will not “sustain the functional fit with the whole, so it is ejected or actually destroys the whole itself.” This concept is evident in the case of humans and is the underlying theme of sustainable being. If humans do not meet the responsibilities of the whole then humans will no longer be part of the whole. These human responsibilities reveal the terms for the extrinsic value of a holon to exist, the terms necessary to fulfill for sustaining the partness to the whole, sustain its spiritual union, and sustain its duration. If any holon desires to be integrated as a part of the whole, it must meet the responsibilities necessary. The connection will not remain intact without meeting the responsibilities for a functional connection. This phenomenon is witnessed in the palpable human expression and deepseated desire to feel whole. Humans are beginning to move past basic needs and are unable to find the happiness within unless there is a reconnection with the whole holon (Integral Spirituality 289).

Essentially humans exist at a scale that is a part of a holarchy of ever expanding depth and complexity. Humans have a responsibility not only to the human race but to all communities that subholons are part of. Sentient beings exist within “networks of relationships with holons in the physiosphere and the biosphere and the noosphere, and our relatively greater rights absolutely demand relatively greater responsibilities in all of these dimensions.” (Integral Spirituality 304) If humans cannot meet the responsibilities then conditions cannot be met and the holons and subholons cannot exist in communion, leading to self destruction. It is a condition of human collective existence to meet these responsibilities. However, the current environmental condition is a manifestation of the continuing lack of progress. The human

problem in the U.S. is the need to claim rights without claiming the responsibility that is mandatory. Humans have wanted and needed to be a whole but without becoming a part. This culture of narcissism, regression, and retribalization does not want to be a part and to assume the responsibility, which is a clear sign of collective fragmentation. Collective fragmentation is seemingly reaching the point where a reversal is inevitable.

Ideally, one would recognize all three types of values for each holon as a “holonic ecology.” Environmental ethics should recognize all holons without exception as creations of the spirit. Holonic ecology incorporates the four schools of environmental ethics which must be addressed in a specific fashion. Although all holons contain equal ground value, not all holons have equal intrinsic value, meaning that there is a holarchy or hierarchy of consciousness and the higher a being is on the holarchy, the less of a right another being has to sacrifice it for its own needs. Since humans have the greatest depth, they have the most responsibility to protect and provide for the biosphere which sustains them (Integral Spirituality 306).

### **Integral Green Building Techniques**

The strong shift toward sustainable design concepts is a clear indication that space is beginning to be perceived differently than in previous chronological periods. Sustainable strategies are clear indications that subtle shifts toward a more interconnected stage are beginning to occur within new design strategies. Some public buildings are now required by LEED to necessitate most spaces to be ventilated by natural ventilation and lit by natural daylighting. LEED has now incorporated the effects of the unseen on human physiology, such as the indoor air quality. Seventy-five years ago the collective thought maintained a concept that the unseen was of no danger to human physiology. Significant research has revealed the startlingly positive effects of healthy indoor air and natural lighting. Sustainable buildings are beginning to operate similar to natural systems that work with life rather than against it. These

structures now feed wastes to natural retention ponds where it is fed back into the natural system which sustain all sentient beings. Techniques adopted from living systems set precedence for a new era in the green building design movement. Humanity is now extracting the efficient strategies utilized by natural systems to develop sustainable strategies for more efficient architecture. As humans continue to shift inner awareness, changes will continue to reflect in the built environment.

China has realized that their growing economy and population will need reasonable accommodations with their growing wealth. Globalization has allowed China and India to flourish and utilize their economic power; however, growing concerns about the relocation of 400 million Chinese has led them to the concept of an ecocity. Alterations to zoning policies have allowed the Chinese to design a sustainable ecocity and hopefully the inhabitants will live within the development footprint (Neutopia). China is beginning to understand that if they adopted the American sprawl model then the world will not sustain the overdevelopment.

### **Spiral dynamics and sustainable development**

The industrial pollution at the orange level causes symptoms witnessed in ocean waters and the atmosphere. This orange level is expanding with the rapid growth in commercial development of countries such as China and India. Over consumption of raw materials and resources is becoming more prevalent among growing nations mimicking the industrial progress of the United States. This orange level of the collective consciousness in corporate and political leaders is apparent in the strive to mass-produce and financially dominate in the world economy. In underdeveloped countries such as the Philippines, the veil of superstition is visualized and yearned for while pollution is common and of no concern. Regulations (Blue Meme) are uncommon in countries such as these at red levels, while a superstition of materialism is apparent and widespread. Green ideals and inclinations for environmental protection have not yet become

prevalent in these areas because the perception of this stage has not yet occurred. Communities within dense urban areas abiding in low social conditions also inhabit these traits. These communities are created as holons within other levels of development residing in different locations.

The motivation attained by those at the orange level needs to embrace the regulation of the blue level by mandating regulations and applying monetary amounts to energy outputs. Additionally, with the inclusion of elements from the green level, these decision makers will develop characteristics of sustainable being thereby transcending the mandates and developing an inherent ecological mindset. Often the green perspective is critical of the orange perspective with little progress. The yellow perspective has successfully implemented temporary solutions and management techniques. Regulations at the blue level will obviously be considered necessary to curb the excessive use of natural resources while technologies at the orange level will be necessary to develop healthy alternatives with low embodied energy.

Communities at the red and purple levels will need public support mandated through blue memes, to establish programs to raise the collective levels of awareness among these sentient holons. When this collective level of awareness is raised, the economy and businesses at orange will achieve financial returns on the public investments. Such programs will be established with opportunities for these individuals to become involved in larger holons to observe communities from multiple perspectives thereby raising cognitive awareness. Additionally, the programs will allow individuals involved to rebuild and reconnect to larger and smaller holons. The yellow perspective will be activated to integrate all stages to further develop and contribute to the effectiveness of the spiral. Underdeveloped areas could potentially develop through these stages with the implementation of an integral life/ community practice to operate within parameters of

an established program to help create a sustainable being. Ideally, the methodologies and concepts of spiral dynamics would be organized into a process to develop groups through the stages of evolution. The implementation of such a system is difficult primarily due to potential imbalances and pathologies which may occur. The juxtaposition of higher and lower levels of the spiral dynamics chart can have beneficial implications with balanced proportions (Beck).

### **Future food and vertical farming**

As humans develop comprehensively, cities will gradually rezone to accommodate for mixed-use high rise living, vertical landscaping, and vertical farming. These new dense cities will establish a walkable, transit-oriented mixed-use community. Additionally, designing vertical farms will: significantly reduce fossil fuel use from transportation and materials, reduce land destruction, rebalance ecological cycles and natural processes, and further reconnect humans to nature. Ideally, the architecture would engage nature at a vertical scale while placing humans in harmony with natural order (Tilman 2).

Agricultural land has become overfarmed causing farmers to add more chemicals to the food that is ingested by the population. Vertical farming could transform the agricultural sector of the financial system. It would also transform topography, minimizing undeveloped vulnerability to climate unpredictability, improve bionetwork sustainability and allow ecosystem replenishment. Vertical farming will reduce poverty and fossil fuel use by urban core location. Resources will be protected, waste management will be improved and all food will be organic. Prices of food will drop dramatically allowing more mouths to be fed and more people to be employed. Additionally, one indoor acre of farm will equal 30 outdoor acres of indoor farm. Although these concepts are relatively new, it will be important for all aspects to be further investigated, including economics, government, community and environment. Humans will soon

be forced to adopt this approach to sustainability within all countries. However, if there is an inner shift then these strategies will naturally come about (Despommier).

### **Integral architecture and construction**

In the 1840s, the telegraph altered humans' perception, which occurred again in 1906 with the usage of the radio, and in 1927, with the television. These leaps in technological advancements and discoveries led to leaps in the evolution of consciousness. Internet-integrated architecture can manipulate the perception of information density and its interaction with all sentient beings. Imagine what humans will perceive in ten years from digital space. A new spatial understanding that is beyond physicality and involves nonlocation, dynamic systems, and invisible architecture, will become visible to and interactive with observers. Not only will this new architecture be dynamic and interactive but it will look to nature for solutions to human generated problems. This architecture will utilize natural proportions and react as fractal living systems (Beigl 142).

Architecture is the most influential art of any form. Although architecture can be an art of the egocentric, it can be used as leverage for change. Humans interact with space and architecture for over 90% of their lives. Architecture is instrumental in the evolution of the human species. Architecture can unify, interact, engage, mystify, and reconnect people with one another as well as nature. However, fragmented boxes and other unappealing architecture becomes part of a feedback loop of blight and violence thereby creating a slum. (Hawkins 160) Disconnected and dehumanized housing projects of urban ghettos manifest their weak energetic patterns as a matrix for immorality and decadence. The destitution of the slum becomes an excuse for the individuals inhabiting it to mold into the perceived stereotype. The perception of the observer to these decrepit environments alters the attitudes of the individuals occupying these

spatial zones. Additionally, breaking away from this spatial construct of negativity is intricate after immersion in the spatial field of energy.

Architecture's next role is that of a rejuvenation mechanism for the body and soul, while questioning the boundary of what representation is and what reality is. Architecture will become as quantum space existing everywhere at once, yet ever-changing but only existing now. The concept of architecture as a physical navigation system will develop at the exterior and interior spaces while communicated to the urban context. Spatial understanding and occupation will be manipulated by these digital systems (Beigl 182).

Architecture impacts collective perceptions by manifesting and formulating a spatial construct with which the observer interacts. If planners and architects develop strategies to create interactions with nature and other sentient beings through spatial experience, the architecture will ensue as leverage for change. Architecture could be formed to induce altered states of consciousness, allocate a wider perception, and connect the individual to the collective, the natural, and the electronic.

Humans are already beginning to become immersed in an age of electronics where the ability to perceive and interact with space is unconsciously shifting the user's perspective. The architecture of this period will be immaterial, multimedial and multidimensional. Currently, the immateriality is commonly expressed by transparency while the widespread use of glass is beginning the process of disassociations with materialism. The multimedia based architecture could be expressed by messages that could be sent from the structure to the observer while modifying the observer's biochemistry. Building fabric will no longer serve as a barrier but a uniting element. When walls lose their consistency, the objects will become dematerialized as will humans' perception of them. Architecture and the internet will unite to communicate with

the observer in different ways from unique perspectives. Space will no longer be the unit which holds the physical body but rather a medium through which information is dispersed.

Multidimensional architecture will culminate parallel virtual spaces to exist simultaneously. This new architecture will create a virtual hybrid of ambient environments that co-exist in multidimensional quantum space. Any remaining boundaries will be blurred between analog and digital worlds. The digital will elevate collective consciousness, widen perception, and accelerate mass media into altered states of electronic communication. Operating at a macroscale, the internet is accelerating globalization into a new hybrid condition which the global network proliferates and the link between local and global has disintegrated (Beigl 160).

Although architecture has been one of the slowest fields to evolve, computers are now taking over the decorative and iconographic functions of architecture. Structural facades now emanate images displaying information for all to see and interact with through conscious intent. Humanity is now engulfed in an age marked by electronics which are becoming integrated with architecture. Structures are beginning to interact with the outside world and stimulate the senses through computer-integrated digital architecture. These structures redefine space and the human experiential aspect of that space through the interaction with the observer. The building fabric has begun interacting with observers and creating a show of lights, colors, and sounds, while communicating information. This new digital architecture will be fluid and ever-changing to adapt to each individual viewer. These spaces will consist of ephemeral architecture that creates subjective spaces created from information density and dependent on the needs of the occupant (Beigl 190).

New environments will be shaped through the use of developments of information technology. Computer technology has shifted not only architecture itself but also the roles and

responsibilities of the architects. Architecture can not be described in the provisions of familiarity and it is no longer connected to the spatial concept of architecture from its formal definition. Architecture is not spatially clearly defined with exterior and interior space. Architects and builders will have to understand hybrid environments and virtual spaces within a multimedia-based society. These fast-changing social contexts have now morphed into responsive digital environments that interconnect all spatial realms. This new architecture will hopefully become abundant alongside the development of human consciousness.

### **Technology**

The human mind is similar to a computer terminal attached to an enormous database. The database is human consciousness itself, of which individual consciousness is an individual expression. Everyone potentially has access to the computer database, which is the realm of intelligence. When humans grow and develop, they do so in the world of materialism where the essential interconnectivity to the database is forgotten. The sense of separateness has strengthened human ego, which has become one of the leading causes of the environmental crisis. This catastrophe cannot be solved on the level of form and materialism; change will need to come from within (Hawkins 19).

An example of the computer database as human consciousness is the internet. Soon, all humans will have access to this ultimate information density. However, the internet can be a great tool for development or disaster. The outcome will completely depend on the perspective of the observer. The internet shift in human functioning has disentangled communication knots to pull humans into exponential times.

The law of sensitive dependence on initial conditions states that the slightest variation over a course of time can have the effect of producing a profound change. The internet is a perfect example of this, and the change has already begun. Technologies will further evolve through the

incorporation of nature's laws, mathematical sequencing, and quantum computing. The internet and modern technology are beginning to flow into everything including architecture and construction. Construction and architecture are beginning to accept these changes and will further incorporate technology as well as natural laws to create interactive living architecture.

Technology will begin to express characteristics of natural systems in the near future. Not only can technology allow humans the opportunity to grow, it will allow us to clean up some of the mess humans have made. Hopefully, future technology such as nanotechnology will give humans the capacity to make changes needed to restore natural systems to a state of balance. When humans grow through the stages of consciousness toward a sustainable being, technology will be crucial in an endeavor to restore natural systems and reconstruct the urban landscape.

Modern technology will soon alter this reality in ways not yet imagined. Technology is shrinking and adopting natural characteristics to become more efficient, much like sustainable buildings. Computer engineers have been pushing to go smaller and smaller into the unpredictable quantum realm, parallel universes, superposition principals, electron tunneling, and wayward thermal effects (Benyus 196). These drastic changes will need to be paralleled by development in the upper left quadrant (I). Humans can use these new technologies in beneficial ways with the development of human consciousness.

### **Cultural Reflections of Shifted Frequencies**

Sustainability can no longer be practiced from the upper right quadrant alone. The United States is a clear example of the confinement of sustainability to the upper right quadrant. Europe, Nordic countries, and Germany have surpassed most countries in sustainable initiatives and green building practices. What is it about these countries that has set them far ahead of Americans and others in their environmental awareness as it applies to the built environment? Although some may disagree, the collective human development in these countries has surpassed

the U.S. Without a similar shift from countries such as the U.S., China, and India, planetary destruction will occur rapidly. The U.S., China and India are growing so rapidly with such determination and intensity that the planet will hardly sustain their economic progress. This growth dominated by the orange meme has not been paralleled by regulations in the blue meme and growths in consciousness from the purple meme. After close examination of other cultures embodying characteristics of the sustainable being principle, research has found that Nordic countries are the furthest along the path of integral development. Coincidentally, Sweden is ranked as the most sustainable country, followed by Denmark and then Switzerland, according to Institute of Environmental Management and Assessment (IEMA). Reports have shown that Sweden is the world's best performer in environmental and social sustainability. A survey of 30 leading members of the Organization for Economic Cooperation and Development (OECD) by the Swiss bank Zurich Kantolbank gave Sweden 9.5 points out of a maximum 10. Denmark came second, with 9.4 points, followed by Switzerland on 8.8 points. At the bottom of the list was the United States on 2.2 points, well behind Turkey and Mexico in 28th and 29th places respectively. The rankings were based on an index that considers countries' performance across a range of indicators, including emissions, biological diversity, energy consumption and participation in international treaties. Sweden was ranked top in social sustainability and second-best in environmental development. Sweden's implementation of the Kyoto Treaty on greenhouse gases is a clear indication alone of the highly developed nature of the Swedish society. Sweden's environmental policy and equality for all sentient beings sets the frequency for others to hopefully follow. The researchers also ranked Sweden's social sustainability; the index considers health, living standards, equality and education (Enditem).

Sociological and demographical research has revealed that Nordic countries and the Netherlands fall largely within the green meme range and higher ranges of development on the spiral dynamics chart. The green level is communitarian and characterized by ecological sensitivity while the majority of the population of these countries are free from dogma and greed. Communication and relationships are emphasized and openly expressed without repression. Nordic countries are strongly egalitarian and remain unbounded by societal constraints which allow a subtle openness to pervade in the area. Pluralistic values, multiculturalism, pluralistic relativism and subjective nonlinear thinking are all apparent within the holons of the Nordic democracy (Reindl).

### **Summary**

The ideas presented here are only concepts that have been synthesized from various locations around the globe. Clearly a shift in collective awareness would present better, more advanced concepts that would allow humans to live in alignment with the natural phenomenon. The concepts presented here have attempted to convey the current reflections of human consciousness and potential changes or solutions among different fields, cultures, and countries.

Changes in technology and politics are beginning to signal a collective shift that may occur in the near future. Globalization is allowing the world to have access to infinite amounts of information that can be utilized for positive or negative outcomes which will greatly affect the environment. It is now up to the collective to decide the future of this planet. If humans decide to remain out of alignment with the evolutionary impulse of the universe than all sentient beings will suffer the consequences of there own unconsciousness. The environment is resilient and it will not allow itself to be hurt. The world will simply readjust itself to correct any problems that it may have at any time. If humans don't begin to develop further than the environment will

correct itself with natural disasters and polar shifts. However, life will continue in one form or another.

## CHAPTER 6 CONCLUSION

This thesis does not suggest that humans disregard those who do not have basic survival needs. This concept suggests that all who are willing and able to develop could do so, which would naturally help alleviate some of the pain in the lower levels of development. Although this concept may not be as pressing an issue as the needs of some at the lowest levels of human development, basic ethical issues need to be addressed for the survival of the less fortunate. However, the health of the entire spectrum of consciousness is of paramount importance during these exponential times. These maps and suggestions simply help create solutions to problems within the field of sustainability. Sustainability currently ignores the interior quadrants and purely focuses on the exterior symptoms. This thesis simply examines the interior issues and extracts their reflections within the creation and construction of the built environment.

These times are exponential times, where information flow will transform the world of the seen and the unseen in ways now considered unimaginable. The purpose of a sustainable being system would not be to get humans to a certain level of development but to help develop the entire spectrum of development at every level. The perfect system of sustainability would include the development and understanding of both the exterior and the interior at all stages and levels of consciousness.

This research has extracted parallels between pathologies in politics, policies, planning and sustainability. Currently, sustainability in the U.S. is perceived as an exterior issue with no reference to interior causation. Americans primarily focus on the exterior symptoms while ignoring the interior levels of human development. As humans develop from egocentric to ethnocentric to worldcentric, the environment will have the ability to reflect this internal shift. Integral sustainability and ecological public policy would embrace the exterior sustainability

issues (green building techniques and renewable energy) as well as the interior issues (human development at all levels). Additionally, this thesis extracted and analyzed some reflections of positive change that are beginning to emerge around the globe. Such changes can serve as a catalyst for future sustainable developments that can foster interconnectivity and communion.

A new comprehensive sustainability or sustainable being initiative could examine behavioral problems, social issues, cultural issues, technological developments, systems theory, morals, and science. This comprehensive developmental strategy will surely allow future generations to occupy the earth with all aspects of comfort and harmony.

The best humanity can do for the development of the whole spectrum is to develop appropriately in an integral manner. Hopefully humans can develop comprehensively from a place of heart instead of the head or ego and leave the world a bit more whole than when humans began inhabiting it one hundred thousand years ago. The most important thing for this world today is the growth at every level so humans can gain the ability to connect to nature and experience beingness beyond form. As more individuals are able to access these levels of development, it will become easier for the rest to do the same. When this occurs, true sustainability can emerge.

## APPENDIX A HAWKINS' DEVELOPMENTAL MAP

Test respondents were independent of belief systems and unknowingly tested. The studies showed the patterns of energy fields which are aspects of consciousness itself, unrespectable of individual identities. Millions of calibrations over years researching kinesiological studies have defined the range of values that correspond to sets of attitudes and emotions, localized by specific attractor energy fields. The calibration figures represent a logarithmic progression, so the level 400 is 400 to the tenth power. Thereby a jump of a few points is a major advancement of power. The levels below 200 are socially and energetically destructive to planetary life and the numbers above are positive expressions of power and energy. Each level forms its own city of people that perceive the world in these ways thereby creating it constantly, and making it even harder to change. Individual evolution is difficult if the collective consciousness of that surrounding is at the lower levels of energy.

- **20 shame:** Individuals in this state feel banished and wish that we were invisible or dead.
- **30 guilt:** These people expresses remorse and suicidal behavior
- **50 apathy:** People at this level are characterized by despair, hopelessness, and poverty
- **75 grief:** Individuals feel sadness and feelings of loss
- **100 fear:** Media and advertising use fear to gain money or support. Once fear is the collective focus, the world reflects that fear by feeding it. Fearful thinking expands into paranoia generating neurotic defense structures thereby becoming infectious and dominating the collective consciousness with that energy pattern. This is where most ecologists become part of the problem instead of the solution. They hope that by citing the environmental degradation statistics, it will incite fear and make progress. The fear they create adds to the collective thought forms which speed the process of the environmental degradation. Fear limits growth of the individual and the environment (Hawkins 66).
- **125 desire:** The mind-dominated western culture expends vast amounts of energy trying to gain money. The need or desire for power, prestige or money runs the lives of people who have risen above fear. This desire becomes an addictive desire for something seemingly more important than life itself. Some become addicted to the desire for attention or sexual approval (from which the fashion industry has spawned).

- **150 anger:** Desire leads to frustration which then turns into anger. Anger can be expressed as revenge and resentment (Hawkins 67).
- **175 pride:** People feel more positive at this level as opposed to the earlier energy levels. The level of self esteem is increased at this level, however; it is defensive because the ego identity is dependent on the external condition. All society and the earth pay the price of pride as seen from war and the casualties.
- **200 courage:** Power begins to surface at this level of accomplishment and determination to try new things and learn more. These people “put back in the world as much energy as they take,” through their productivity. Below these levels, the people drain energy from society, the earth is seen as a utility, and love for the planet is not a surfaced emotion. These people and the humans below 200 knowingly destroy the earth which sustains them.
- **250 neutrality:** At this level the individual is unattached to the results and when the person does not successfully accomplish something, they are not angered, defeated, or scared. The person at this level does not need to prove anything to anyone because they have an inner sense of confidence, they do not care to compete, and they feel no need to get in conflicts. This level is also characteristic of a person who does not feel the need to control the behavior of or judge others. A person at this level is aware of their surroundings and will not consciously cause environmental degradation.
- **310 willingness:** At this level, personal growth is swift, work is done well, and economic and social success follows automatically. People that have willingness do not have inner resistance, nor are they troubled by others. These individuals are: open, helpful to others, willing to face inner issues, have high self esteem, come back from adversity (and learn from it), self-correcting, sympathetic, free from pride, able to notice their defects, and willing to learn from other people. These people would have a positive impact on the environment if conscious of the issues.
- **350 acceptance:** At this level one realizes that they create their own reality and therefore live harmoniously with the forces of life. People below 200 believe that the sources of their life problems are outside of themselves. At this level, the person gets their power back through the realization that the source of happiness is from inside of them. The person at this stage can no longer find happiness outside of themselves through material possessions. When one enters acceptance, there is a transcendence of denial and distortion, a widened perception, and emotional stillness or calm. Acceptance is also characterized by: balance, self discipline, an ability to “honor inequality,” an understanding that “equality does not preclude diversity,” and a capability to see the whole picture (Hawkins 70). The energy of these people positively affects the energy of other species and humans.
- **400 reason:** When all the emotions that control the lower levels subside, intelligence and reason emerge. Someone at this level can handle large amounts of information and data, as well as understand the relationships between them and make perfect decisions in light of it all. This is the level of medicine and science and well as an “increased capacity for conceptualization and comprehension.” This is the level of Nobel Prize winners, and people such as Einstein, Freud and many other important people in human history. The

problem at this level is the inability to differentiate between the “objective and subjective worlds that limit the understanding of causality.” The downside is the overintellectualization of theories which cause the person to miss the mark. It is sometimes hard for a person with reason to have the discernment to determine the critical point of a complex issue. Transcending this level is relatively uncommon for people in our society (Hawkins 71).

- **500 love:** Characteristics of love as defined by our current society would be described by: physical attraction, possessiveness, addiction, control, dependency, and intense emotional feelings. This false love will be evanescent and morph into hate which stems from pride. However, real love is: permanent, unconditional, a state of sustainable being, not dependent on any external factor. This love allows one to accomplish anything while the understanding of unity and essence stays predominant. To this person, the root of an issue is the most important thing, unlike reason which deals with the details. The person experiences the all-encompassing love, and derives their answers through intuition. Although seemingly abstract, the person with true love has a measurable amount of endorphins released from the brain. Love will expand the individual’s sense of self becoming all inclusive, thereby dissolving negativity by “recontextualizing it rather than attacking it.” True happiness can be felt at the level of love. All the viable religions of the world collaborate at 500 or over, however, only .4% of the world’s population ever reaches this level of the evolution of consciousness.
- **540 joy:** Inner joy surfaces as love become more unconditional. Joy is experienced at every moment independent of any outside force. After 540 is the level of saints, and advanced healers. This state is characterized mostly by: presence, compassion, and a feeling of beauty in everything. At this level everything happens by synchronicity and without effort. The power of this person’s energy field and presence draws people to them. There is a feeling from these individuals to use their state of consciousness to benefit life rather than anything or anybody. This feeling of love for everything and everyone is accompanied by the understanding that “the more one loves, the more one can love.” The near death experience has allowed people to experience the energy level between 540 and 600 (Hawkins 73).
- **600 peace:** People have called this state God-consciousness, transcendence, self realization, and others. This state is characterized by a loss of perception because there is no distinction between subject and object. Some of these people become spiritual teachers. These people are seen as saintly or geniuses of their field in which their contributions are great. When this level is reached, these people usually transcend religions and become purely spiritual (this is the point from which all religions originate). The perception of these individuals is slower than ordinary and everything is perceived as being alive and a part of them. This state of being is also characteristic of a loss of conceptualization and a silencing of the mental turbulence. At this state, the observer becomes the observed and that everything becomes everything and nothing. Only one in ten million people reach this state of being (Hawkins 74).

- **700-1000 enlightenment:** Mother Teresa, who was recognized by winning the Nobel Prize, was collaborated at 700. These individuals set attractor patterns in place which influence all humans. These beings do not experience any self separate than others and the unmanifested is felt as self beyond the mind. They set an example for the world by their transcendence of the ego. The teachings of these rare individuals raise the awareness and the vibrational frequency of all humans. At this level there is no identification of the physical body as “me” and therefore there is no fear of its loss. At this level of complete oneness or “non-duality,” the self merges back into the self and awareness is seen as being everywhere, equally present. The level of 1000 is the highest in recorded history and it has been obtained by beings such as: Lord Krishna, Lord Buddha, and Lord Jesus Christ (Hawkins 74). If humans were to elevate themselves to this level, they would see everything as pure beauty and this perception would create the timeless beauty. At this level the existence of ecological perfection would be pervasive.

## APPENDIX B HUMAN DEVELOPMENT IN THE FOUR QUADRANTS

To understand the quadrants, it is important to note that the left hand quadrants are interior (consciousness) and the right hand quadrants are exterior (material). These quadrants rise together as a single holistic sequence correlating with one another. The quadrants consist of eight zones with eight perspectives, however, there could be more. These quadrants integrate individual and social without the reduction of the social to the individual.

In the Upper Left quadrant (“I” quadrant) the experience is an intentional subjective experience. Through meditation or deep contemplative prayer, cognitive development through schooling or reading, intentionally focusing on strengthening weaker developmental lines, watching the ego, and the development of one’s creativity, one can elevate their level of development in this quadrant. In the upper left the self evolves from egocentric (me) to ethnocentric (us) to worldcentric (all of us), also interpreted by Wilber as body, mind, and spirit (Integral Spirituality 22).

The Upper Right quadrant (“It”) works on the physiology of one’s body by enhancing physical health with diet, and different exercises. Exercises such as yoga, tai chi, and chi kung utilize the UL and UR quadrants. In the upper right corner, the energetic phenomenological experience grows from gross to subtle to causal. The Upper Left is the mind and the Upper Right is the brain.

Development in the Lower Left “We” quadrant involves improving a significant relationship or ethics development. The lower left elevates from the egocentric (me) to ethnocentric (us) to worldcentric (all of us) which allows the societal systems in the “its” category on the lower right to increase from simple groups to more complex systems such as global systems. At this lower left quadrant, the cultural evolution moves in waves (Integral

Spirituality 23). This quadrant needs significant work by many sentient beings for the sake of the life-sustaining planet.

The Lower Right or “Its” quadrant focuses on social or role systems. An individual’s role among a group would include his or her career or any community service. In the lower right, the collective societal systems are investigated and the social intricacy is integrated into a larger system.

Every event or perception can be perceived, categorized and visualized from the perception of “I”, “we”, or “it.” The multiple intelligences or development lines mobilize through the developmental levels (body, mind, and spirit) including states and types at each level. The integral model contains the quadrants, levels, lines, and states. The integral approach involves “the cultivation of body, mind, spirit, in self, culture, and nature.”

With the healthy I-development a person realizes that “I have thoughts but I am not my thoughts,” and “I have feelings but I am not my feelings.” This observer is no longer identified with the thoughts as a subject but owns them as an object. Ergo, healthy development is the adaptation from 1<sup>st</sup> person subjective (“I”) to 1<sup>st</sup> person objective or possessive (“me”/ “Mine”). Healthy expansion converts I into me; unhealthy maturity converts I into it (Integral Spirituality. 26).

## APPENDIX C NANOTECHNOLOGY

### **Progressive Conceptions of Technological Advancements**

The ability to manipulate matter has evolved from the manipulation of genes to the manipulation of atoms. Nanotechnology is the manipulation of these atoms and molecules to create new systems. It has manifested through the ability to manipulate individual atoms. Nanotechnology combines chemistry with engineering on a microscopic scale to interlock the atoms and molecules together through their opposite charges. Nanomachines pull together millions of these atoms and molecules collectively to form all sorts of objects. This will open the doors to a whole new set of rules, regulations and ethical issues which will need to arise. These innovations in nanotechnology will have a profound impact on all fields especially the growing field of building construction and sustainability. Nanotechnology will revolutionize the way humans detect and treat disease, store and create energy, build buildings, as well as monitoring and protecting the environment. Analytical and theoretical projects are currently going on to examine the positive and negative impacts of these systems.

Most people have used the word nanotechnology to describe smaller technology which has not been formed on a molecular level. Because of this inaccurately described term, scientists have chosen to call it molecular nanotechnology or molecular manufacturing. Nanotechnology would allow humans to inexpensively create anything and everything unimaginable. The current lithographic methods which are used to make computer chips could never potentially achieve the same goals as nanotechnology. We can potentially make small or large lightweight materials in any form or molecular structure. A reoccurring example is that of the shatterproof diamond in any shape or form, which would be fifty times lighter than steel as well as have the same strength. One can only imagine the direct impacts on construction and sustainability. Humans

could have a regular sized car that weighs only 70 kilograms with such innovation. These examples are only the beginning of Molecular nanotechnology. The next stage of nanotechnology involves nanobots constructing and self replicating atom by atom to construct and build macro sized objects. The objective is to have these assemblers and replicators build everything, including buildings that are stronger, weigh less and made with fewer materials.

Nanotechnology allows humans to make any structure consistent with the law of physics and specify every atom in the right place. The manufacturing costs will be less than the alternative requirement of raw materials and energy. This will become an effective approach through the use of self replication to lower the cost of manufacturing. In this case the parts would spontaneously assemble into the desired structure because, the molecular parts have complementary shapes and charge patterns. For example one part would be positive where the other would be negative and one would have a gap where the other would have a fill. These parts will be brought together to combine into larger parts. Viruses use this same approach to spread and create more viruses. Some may argue that the use of artificial systems to self replicate will create a product which is less adaptable to changes in the environment than a biological system would be. The scientists manufacturing these artificial systems then began researching the concept of converging the living with the nonliving to create a completely new substance. The result of this research was the development of nanobiotechnology. Basically this will involve the manipulation of biological systems to operate similarly to machines. This method is advantageous because it is economical and efficient. At the level of atoms and molecules living and nonliving things all look the same. This is an interesting fact that most people take for granted. The general population's view of living on nonliving systems is quite different than what scientists see in the quantum world. All the research on the subatomic level

is allowing our species to evolve through our understanding of consciousness. Humans will all soon realize that everything is energy and consciousness.

### **History**

In the 1940's Von Neumann made the first serious analysis of the self replicating systems. He created a theoretical cellular automata model using a universal computer for control and a universal constructor to build more automata. This constructor has a robotic arm that alters the state of the cell at the tip of its arm. This computer controlled arm could build any structure that the computer ordered it to. The technology contains nano-sized particles that self assemble into a fibrous mesh which mimics the body's natural connective tissue when put in contact with living cells. Humans could potentially use these positional assemblies of molecular parts to create larger structures using a form of massive parallelism. This theory suggests that instead of using "one robotic arm" to build a larger object, we would use many working together. Nature does this same process on a daily basis using its self replicating system to create everything humans see and take for granted on a daily basis. This process would be similar to that of factories which process larger parts by larger robots progressively. This approach to convergent assembly starting at the atomic level moving to massive objects is definably a glimpse into the not so distant future. However, since humans are using smaller parts to create larger ones the efficiency is less and the difficulty to program is more.

A theoretical analysis was implemented by NASA in 1980 to assist in lunar mining and manufacturing. Drexler has proposed that we use this same method of a computer and a constructor to create a molecular computer with a robotic arm which would perform chemical operations such as hydrogen abstraction. In the mid 1980's Drexler wrote about what he felt these advancements would lead to and called this phenomenon Grey Goo. He suggested that this uncontrollable spread of self replicating nanobots would lead to the demise of the human

race. His theory might sound inaccurate but if one quantifies the exponential rate of replication, it is completely accurate. The example Drexler gives is that if one of these nanobots self replicates in 1000 seconds than in 10 hours there would be 68 billion nanobots. At the end of two days they would outweigh the earth, and four hours later they would exceed the mass of the sun and all the planets. However, in light of this discovery, the Foresight institute (prepares society for the era of molecular nanotechnology) has established guidelines for developing safe devices. These safety nets would require the devices to have “terminator” dates, as well as require these devices to utilize a single artificial fuel source.

Today through the use of nanotechnology, many companies have begun to develop products utilizing the nanoparticles. Such products include: scratchproof glass, crack resistant paint, self cleaning glass, stain repellent fabrics, and many more. These products have been successful with little concern. Advancements in nanotechnology have allowed the field to produce incredibly profound results. As of March 16<sup>th</sup> 2006 there have been scientists which have restored the vision in blind hamsters. This nanotechnology has the ability to allow brain cells to reconnect with one another. These advancements will soon be used on humans with brain and spinal cord injuries to restore sensory and motor functions. Hopefully, these technological advancements could potentially help humans evolve. Einstein once said that if humans could use all of their brains than they would transcend the physical body. This could be a possibility if nanotechnology could help us increase our brain usage capabilities.

### **How Will Nanotechnology Help Develop a Sustainable Planet?**

Through the development of nanotechnology humans will have the ability to improve methods of sustainable designing and building. Humans will be able to create any object through the manipulation of individual atoms. Nanotechnology has the ability to help create a world of abundance for anyone or anything that is lacking in basic needs. Nanotechnology could help

with: cleaning the environment, food needs, housing, medical care, and a safe environment. However, there has been a pressing need for analysis and limitations of this technology. It is important that a world federation be established to address these particular issues. Such issues would include (and are not limited to) the implications on the educational system, environment, culture, ethical, and societal systems. It is important that humans establish solutions and recommendations in anticipation of this industrial revolution. The release of these technologies into our natural environment is a growing concern which must be addressed especially due to the fact that the earth is currently suffering from an immediate ecological crisis as well as its continuing one, anthropocentrism.

A current shift toward the use of nanotechnology in agriculture has begun. Nanotechnology has been closely watched by the agricultural industry because of its potentially profound impacts on the damaged industry. Soil is becoming more damaged by the use of the harsh chemicals readily used by farmers. The farmers are having a harder time dealing with customer demand and soil issues. This problem may be eliminated by the use of nanotechnology. Humans could immediately and inexpensively recreate and duplicate any material rapidly, including crops. Although a possibility in the future, it still has questionably ethical implications.

### **Nanotechnology and its Effect on the Construction Industry**

As our steel is quickly running out, scientists are inventing ways to compensate. Advancements in nanotechnology may provide a better solution than the original material. Nanotubes have been tested as an alternative to steel. Nanotubes are molecules of pure carbon (full of proteins) that are assembled into forms which are 6 times lighter than steel and over 100 times stronger. Theoretically, if the nanotubes were to crack, the proteins would release and repair the crack. However, the use of these natural proteins and their ability to self replicate also

brings up some ethical points. This system harnesses nature to transform matter. These actions go beyond biomimicry because it transforms biology into an industrial labor force. However, using biological matter instead of chemical matter is a positive step forward. The concept of merging nonliving matter with living matter to perform biological functions is also cause for ethical concern.

The effects of nanotechnology in the future will be mind blowing. Many scientists predict in the near future, our built environment will self assemble without the use of physical labor. A self assembling building would be lighter, stronger, and use fewer materials. These self assembling buildings will obviously have to be well programmed and controlled in order to be successful. Humans can only hope that this will lead to the reconstruction of damaged natural environments.

It is imperative that scientists are educated in the ethical concerns involving the implementation of such a revolutionary technology. There has also been a growing concern over the threat of other outsiders such as terrorists manipulating these systems to commit terrorist acts (orange with red). Many scientists are concerned that this technology could potentially wipe out our species due to its ability to self replicate while unnoticed to the naked eye.

As scientists explore more innovative ideas, the emergence of the self aware systems is in the horizon. These systems are being created from the convergence of living and nonliving things. These organisms would react in ways which humans don't yet know the full extent of. The study of the emergence of these living and nonliving things is called nanobiotechnology. It is currently most commonly used in the development of pharmaceutical products.

Harvard chemist George Whitesides believes that "the most dangerous threat to the environment is not grey goo, but self-catalyzing reactions," that is chemical reactions that speed

up and take place on their own, without the input of a chemist in a lab. It is here where the natural nanomachines merge with the mechanical nanomachines-that the grey goo theory resides the strongest.” The industries developing these products have not been able to control or even contain these modified organisms. The hybrids created by nanobiotechnology are foreign to this world and humans have not yet fathomed the concept of them dispersing. A virus assembled with this technology could easily spread as it evolves and replicates. This could and might happen before humans can quantify and analyze the impacts of this scenario. No one has thought to ask or consider the impacts of these nanoparticles floating around and in human bodies and the planet. The government has remained excited from the emerging industrial revolution occurring due to the advancements of these technologies (as well as the billions brought about by it). However, governments invest only a small amount of research in the possible negative effects.

The US and National science foundation predicts that the “market for nano-scale products will reach \$1 trillion per annum by 2015.” This growth comes without regulations which are beginning to cause some concern. There are no systems in charge of governing or regulating these technologies or laboratory research to date.

Past the nanotechnology stage will be the Atomtechnology stage which would refer to the manipulation of subatomic particles. At the level of the subatomic world, everything begins to look the same and is visualized as one. The unified field of intelligence and consciousness will allow the human species understand the essential human nature, the power of consciousness, and the undergoing evolutionary shift of all sentient beings.

## LIST OF REFERENCES

- Barbanel, Josh. "Administration of Urban Planning and Community and Rural Development: Reports That Existing Zoning Laws are a Major Obstacle to the Spread of New Urbanist Designs." *New York Times* 2004: 2.
- Bateson, Gregory. *Mind and Nature a Necessary Unity*. Cresskill, N.J: Hampton P, 2002.
- Bateson, Gregory. *Steps to an Ecology of Mind*. University of Chicago Press Ed. ed. Chicago: University of Chicago P, 2000.
- Beck, Don. *GlobalValuesNetwork*. 1 Aug. 2002. 8 Nov. 2006  
<<http://www.globalvaluesnetwork.com/>>.
- Beigl, Michael, Georg Flachbart, and Peter Weibel. *Disappearing Architecture From Real to Virtual to Quantum*. Basel: Birkh user, 2005.
- Benyus, Janine M. *Biomimicry Innovation Inspired by Nature*. 1st Ed. ed. New York: Morrow, 1997
- Brady, John. "Sweden is Most Sustainable Country Say OECD." *IEMA*. 25 Nov. 2004. 14 Dec. 2006 <<http://www.iema.net/news/envnews?aid=4918>>.
- Capra, Fritjof, and Michael McConnohie. *The Tao of Physics*. New York: Distributed by St. Martin&Apos;S P, 1990.
- Chopra, Deepak *The New Physics of Healing* (Audio Cd). Sounds True Recordings, Boulder, Colorado (2003).
- Despommier, Dickson. "Vertical Farm Designs." *The Vertical Farm Project*. 04 Oct. 2006  
<<http://www.verticalfarm.com/designs.htm>>.
- Dresner, Simon. *The Principals of Sustainability*. London: Earthscan, 2002.
- Edwards, Andres R. *The Sustainability Revolution Portrait of a Paradigm Shift*. Gabriola, BC: New Society, 2005.
- Emoto, Masaru. *The Hidden Messages in Water*. Emeryville, CA: Distributed to the Trade by Group West, 2004.
- Gerber, Richard. *Vibrational Medicine the #1 Handbook of Subtle-Energy Therapies*. 3rd Ed. ed. Rochester, VT: Bear & Co., 2001.
- Goldman, Jonathan. *Shifting Frequencies*. Flagstaff, AZ: Light Technologies Publishing, 1998.
- Goswami, Amit, Richard E. Reed, and Maggie Goswami. *The Self-Aware Universe How Consciousness Creates the Material World*. New York: Putnam&Apos;S Sons, 1993.

- Greene, B. *The Elegant Universe Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory*. 1st Ed. ed. New York: W. W. Norton, 1999.
- Hagelin, John. "Consciousness, Creativity and the Brain." John Hagelin PH.D. 01 Oct. 2005. Maharishi University of Management. 20 Aug. 2006 <http://www.hagelin.org/> .
- Hagelin, John S., comp. *Social Indicators Research*. Vers. 47. June-July 1993.
- Hagelin, John. *The Perfect Government*, New York: 2001.
- Hawkins, David. *Power Vs. Force*. Sedona: Vertas, 2004.
- Hawking, S. W., and S. W. Hawking. *Stephen Hawking's A Brief History of Time a Reader's Companion*. New York: Bantam Books, 1992.
- Hawking, S. W. *The Universe in a Nutshell*. New York: Bantam Books, 2001.
- Hirai, T, comp. *Electroencephalographic Study of Zen Meditation: EEG Changes During Concentrated Relaxation*. Vers. 16:76-105. 1960. *Folia Psychiatrica Et Neurologica Japonica*. 9 Dec. 2006.
- Jain, R. B. *Environmental Stewardship and Sustainable Development*. New Delhi: Friedrich Ebert Stiftung, 1997.
- James, Kenneth. *The Vibrational Universe*. Ann Harbor: LHP., 2006
- Jung, Carl G. *Synchronicity, an Acausal Connecting Principal*. Princeton: Princeton UP., 1973.
- Kibert, Charles J. *Reshaping the Built Environment Ecology, Ethics, and Economics*. Washington, D.C: Island P, 1999.
- Kibert, Charles J. *Sustainable Construction Green Building Design and Delivery*. Hoboken, N.J: John Wiley, 2005.
- "Leading to a Revolution in Technology and Industry." *National Nanotechnology Initiative*. 4 Nov. 2006 <<http://www.nano.gov/>>.
- Mazria, Edward. "Architecture 2030." *Climate Change*. 2006. 23 Feb. 2007 <<http://architecture2030.org/home.html>>.
- Merkle, Ralph. *Nanotechnology*. 29 Oct. 2006 <<http://www.zyvex.com/nano/>>.
- Neutopia, Doctress. "Race to Build an Ecocity." *Lovolution*. 2006. 14 Nov. 2006 <http://www.lovolution.net/> .

- Orr, David W. *The Nature of Design Ecology, Culture, and Human Intention*. New York: Oxford UP, 2002.
- Passino, Kevin M. *Biomimicry for Optimization, Control, and Automation*. New York: Springer, 2004.
- Penrose, Roger. *Shadows of the Mind a Search for the Missing Science of Consciousness*. New York: Oxford UP, 1994.
- Radin, Dean I. *Entangled Minds Extrasensory Experiences in a Quantum Reality*. New York: Paraview Pocket Books, 2006.
- Raynoff, Rachaele. "Innovative New York Zoning District Receives National Planning Award." 12 Jan. 2006. 11 Nov. 2006.
- Reindl, John. "Nordic Countries Most Sustainable." Green Yes. 04 Mar. 2006. 22 Nov. 2006 <<http://greenyes.grn.org/2005/03/msg00042.html>>.
- Rubin, Debra K. "Companies Embracing Sustainability Often Do It to Reap Financial Rewards." *ENR* 20 Jan. 2007: 30-36.
- Rubin, Joanne. "Integral Psychotherapy." *Integral Psychotherapy*. 2006. 15 Jan. 2007 <<http://www.integralpsychotherapy.org/being.html>>.
- Ryn, Sim Van Der, and Stuart Cowan. *Ecological Design*. 10th Anniversary Ed. ed. Washington, D.C: Island P, 2007.
- Sendzimir, Jan, and G. Bradley Guy. *Construction Ecology Nature as the Basis for Green Buildings*. New York: Spon P, 2002.
- Talbot, Michael. *The Holographic Universe*. 1st Ed. ed. New York, NY: HarperCollins, 1991.
- Thompson, Richard L. *Maya the World as Virtual Reality*. 1st Ed. ed. Alachua, Fla: Govardhan Hill Pub., 2003.
- Tilman, David. Forecasting Agriculturally Driven Global Environmental Change [http://www.verticalfarm.com/pdf/sci\\_forecasting\\_agriculturally.pdf](http://www.verticalfarm.com/pdf/sci_forecasting_agriculturally.pdf) Science Magazine, Vol 292, 4/2001
- Tolle, Eckhart. *A New Earth*. Novato: Namaste, 2005.
- Tolle, Eckhart. *The Power of NOW a Guide to Spiritual Enlightenment*. Rev. Ed. ed. Novato, Calif: New World Library, 2004.
- Wendall, Berry. *Distrust of Movements, in the Best American Essays*. Boston, MA: Houghton Mifflin, 2000.

- Wilber, Ken. *A Brief History of Everything*. 1st Ed. ed. Boston: Shambhala, 2000.
- Wilber, Ken. *Integral Spirituality a Startling New Role for Religion in the Modern and Postmodern World*. 1st Ed. ed. Boston: Integral Books, 2006.
- Wilber, Ken. *Quantum Questions Mystical Writings of the World's Great Physicists*. Rev. Ed. ed. New York: Distributed in the U.S. by Random House, 2001.
- Wilber, Ken. *Sex, Ecology, Spirituality*. 2nd, Rev. Ed. ed. Boston: Shambhala, 2000.
- Wilber, Ken. *The Eye of Spirit an Integral Vision for a World Gone Slightly Mad*. 3rd Ed., Expanded. ed. Boston: Shambhala, 2001.
- Wilber, Ken. *A Theory of Everything an Integral Vision for Business, Politics, Science, and Spirituality*. 1st Ed. ed. Boston: Shambhala, 2000.
- Wolf, Fred Alan. *Mind Into Matter a New Alchemy of Science and Spirit*. Portsmouth, N.H: Moment Point P, 2001.
- Wolf, Fred Alan. *Parallel Universes the Search for Other Worlds*. New York: Simon and Schuster, 1988.
- Wolf, Fred Alan. *Taking the Quantum Leap: The New Physics for Non-Scientists*. San Francisco: Harper and Row, 1981. Revised, New York: HarperCollins, 1989.
- Wolf, Fred Alan. *The Spiritual Universe One Physicist's Vision of Spirit, Soul, Matter, and Self*. 1st Pbk. Ed. ed. Portsmouth, NH: Moment Point P, 1999.
- Ziegler, Edward. "Sprawl, Growth Management and Sustainable Development in the United States." *Virginia Journal of Social Policy & the Law Virginia Journal of Social Policy & the Law* 11 (2003). 08 Nov. 2006.
- Zimmerman, Michael E. "Ecofascism? A Threat to American Environmentalism?" 1997. 12 Nov. 2006.

## BIOGRAPHICAL SKETCH

John Brevard Begeman is an environmentalist, artist, and architect. At the age of 14, John contracted a combined form of encephalitis and meningitis and was in a coma for several weeks. His near-death experience sparked his initial interest in the study of transpersonal phenomenology. John graduated from the University of Florida with a bachelor's degree in architecture and a Master of Science in Building Construction (MSBC) with a concentration in sustainability. He currently resides in Gainesville, Florida, where he started his design, art, and architecture firm (Thoscene Design) with Michelle O'Carroll. His interests include quantifying the effects of an evolution of consciousness on our environmental condition and discovering how the built environment can be improved to flow with natural order. He has been awarded certificates in such courses as the international academy of consciousness, sacred geometry courses in Mexico (6 days), and the healing sounds intensive with Jonathan Goldman in Loveland, Colorado (7 days). John's group was awarded the first place prize for the 2007 Witters competition to design a 100,000 square foot addition to the University of Florida architecture building. In May 2007, John visited Peru and researched with Shaman. These experiences expanded John's understanding of the multidimensional aspects of human consciousness and the interconnectivity of everything in the universe.