EMBODIMENT, RELATIONALITY AND A NEW MORALITY

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By

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To my children, their spouses and my grandchildren
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ABSTRACT

With the introduction of Cognitive Science in the 1950’s, new theories of cognition emerged, resulting in a redefinition of Western philosophy’s concept of the human being. In the 1980’s, amidst growing dissatisfaction with this first generation of Reductionist theories, a second generation of cognitive scientists emerged offering yet another explanation of cognition and the nature of man. In this paper I will argue that both Western philosophy and the first generation of cognitive scientists’ theories are inadequate and therefore are unable to offer guidance for practical reasoning and moral judgment. It is the contention of this paper that the second group of cognitive scientists opens a major new pathway toward a more holistic, cognitively appropriate and comprehensive theory of man.

The first generation of cognitive scientists operated within the world-view of Objectivism, which was the hallmark of the natural sciences. A paradigmatic shift from this Objectivist world-view to a hermeneutic ontological context became the linchpin of the newer generation. I contend that the fullest expression of this new view is expressed in Embodied Realism, wherein the brain, body, mind and culture are incorporated fully into the theory of cognition. This ‘new rationality,’ based primarily on prototypical experience, offers its claims for truth and value based on dialogue that consists of finite, historically situated, flexible non-algorithmic deliberated judgments of a community with
shared aims and accountable practices rather than on universal dictums. I will argue that the prototypical ontological imaginative framework proposed by the Embodied Realists succeeds in opening up new paths, guidelines and possibilities for framing and re-framing questions to be resolved arising from specific historical situations and presents a wide arena of potential choices. I contend that, unlike traditional ethical theories and rules, the hermeneutical ontological tenets of Embodied Realism can co-exist with the findings of contemporary neuroscience and quantum physics.

I intend to show that an individual’s practical reasoning and moral judgment depend on which community or ‘lifeworld’ is deemed most suitable to the particular circumstance encountered. By means of four examples I will argue that much of contemporary society already operates within this framework of Embodied Realism and that major conflicts occur when adherents to the ‘new rationality’ and those within the paradigm of Objectivism attempt resolution of an issue, without recognizing the incommensurability of the assumptions that underlie their respective world-views. It is the contention of this paper that, although much of society operates within the paradigm of Embodied Realism, our training and education of youth remains, for the most part, within a framework of Objectivist principles.

Although much work has been accomplished in the field of cognition, fewer efforts concerning a hermeneutical ontology of the Person and the nature of morality have been fully developed. I intend to offer certain minimal criteria of a theory of practical reasoning and moral judgment consistent with the new findings.

In conclusion, I will point to some of the contradictions that exist among prominent scientists today and Embodied Realist theorists in particular, concerning the
nature of consciousness, free will, self and agency. It is my contention that we create our emerging worlds and that we hold responsibility for all interactions therein. Cognitive science has presented us with a new understanding of the operations of the mind, brain, body and culture but it must be stated that there is much that is unknown and that theories flowing from this data are in the embryonic stage. This paper does not propose to offer any solutions, but rather the intent is to address some of the more prominent theories of the day and to offer some limited perspective on the problems. It is the intent of this paper to present a snapshot, a moment in time, of today’s new rationality and the emerging definition of the human being in this evolved and evolving world.
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CHAPTER 1
INTRODUCTION

There is a new image of man emerging, an image that will dramatically contradict almost all traditional images man has made of himself in the course of his cultural history.


Throughout history, the nature of man and his place in the world has been the subject matter of theologians, philosophers, poets, humanists, psychologists and scientists. As each discipline developed in the Western world, its adherents offered their theories and insight into the nature of this mysterious being. Today, with thousands of years of history upon which to draw, varying theories of the human being, phylogenetic development, responsibilities and teleology in the emergent human world are available to us. It is quite noteworthy that in our present contemporary intellectual circles many of the disciplines have muted their discussions when confronted with the scientific community that, for the most part, claims the right to direct, define and formulate the study of this age-old issue.

In the United States the two most prominent theories stand as polar opposites to each other: Cognitivism and the Embodiment Theory. The differences between these two theories of mind are significant and when applied, are in many instances incommensurable. I defend ‘Embodied Realism,’ a new evolving theory, as giving the more comprehensive, valid, and cogent account of the human situation than the various forms of ‘Cognitivism,’ which continue to be promulgated by many cognitive and neuroscientists. The Cognitivists, or “Hardliners,” have stated their findings succinctly
as: *the mind is the brain*. At the other end of the spectrum, those who adhere more closely to the Embodiment Theory assert that the mind cannot be reduced solely to the brain, but that the body and the culture must also be considered.

The work that has been accomplished in the study of the brain and its neural components in the past decades is extra-ordinary and has greatly increased our knowledge not only of the brain but it has substantially altered the traditional theories of human cognition. The scientific data is quite solid, albeit limited and incomplete, opening up a wide avenue of interpretations that will be tested and revised throughout the next decades. At issue are the *inferences* that these scientists have drawn from the data and promulgated as indisputable fact to the public at large.

The historical source of Cognitivism extends back to the early Greeks where Plato, with his analogy of the Cave, effectively separated the mind, the rational aspect of human beings, from his being as human. Aristotle wrote of the divided aspects of man – matter and form, body and mind – and it is this dualistic paradigm that infused Western thought for centuries to come. In the 10th century, the scholar, Gerbert, introduced Aristotle’s treatises on *Logic* to the intellectual world of northern Europe, initiating a surge of interest in this early philosopher who was first and foremost an experimental biologist. As Aristotle’s methods became intrinsic to the thought of the sciences, so too his methods were adopted by the religious writers and scholars, especially the Scholastics. At first, the question asked was “Christians had the Bible. Why did they need Aristotle” (O’Malley 2004, 97)? Thomas Aquinas “opens his *Summa* by turning the question around. We have Aristotle. Why do we need the Bible” (Ibid.)? Aristotle’s treatises on nature were rebuffed by the burgeoning scientific discoveries of the 17th
century, resulting in the diminishment of the Church as the voice of Truth in secular and scientific matters. Thus, the proponents of the Enlightenment established Reason and the Scientific Method as the pinnacle of man’s achievement. Their proposition was that all Truth could be attained through Reason or sensory data. However, this thesis soon was deemed incomplete and a ground swell arose against limiting man to just one cognitive faculty. The demand was to recognize the feelings and emotions of the human being that experience showed greatly influenced one’s thought and actions. This movement gained ground with Kierkegaard, the humanists and the existentialists and two divergent paths were firmly paved leading eventually into today’s controversy. The American and British philosophers, following the long established course of objective natural science adopted what is known as Analytic Philosophy, while the Europeans, influenced by Heidegger and Gadamer, offered a more comprehensive view of man put forth in what is known as Continental or Phenomenological Hermeneutical Philosophy.

Today we find ourselves in the midst of these two factions, these two distinct paradigms – the reductionists or Cognitivists, more in tune with Analytic Philosophy and the non-reductionists, more in agreement with Continental Philosophy, among whom are, for instance, the Embodiment theorists. The most comprehensive distinction to be made between the two groups is that they exist under differing paradigms. Reductionists comply with the philosophical context of Objectivism while the non-reductionists are considered to be Post-Modern. The characteristics of these two opposing philosophical contexts form the basic foundation of this paper, the distinctions which will be apparent in subsequent chapters.
The following chapter offers an overview of many of the prominent cognitive and neuroscientists who are of the first generation, the Reductionists. The scientists presented have not confined their work to the laboratory but have offered published works and personal interpretations to the public at large. It is to be noted that all of these authors have access to the same data, yet their projections, interpretations, and assumptions differ broadly. The data presented is factual but it is necessary in the reading of these authors to recognize that interpretations of the data are the sole province of the individual author.

Maxwell Bennett and Peter Hacker, in their 2003 oft-quoted book *Neuroscience & Philosophy -- Brain, Mind & Language*, dealt specifically with the problems associated with the over-reaching of these neuroscientists:

> Empirical questions about the nervous system are the province of neuroscience. It is its business to establish matters of fact concerning neural structure and operations. (Bennett 2003, 4)

According to Bennett and Hacker it is the function of cognitive neuroscience “to explain the neural conditions that make perceptual, cognitive, cogitative, affective and volitional functions possible” (Ibid.). This is the exclusive realm of science and should be honored as such but the quandary arises when the boundaries of the physical sciences are exceeded. Thus, when assessing these contemporary writers it is important to keep in mind where science ends and personal projection begins.

The third chapter studies prominent authors who deal with the question of the nature of the mind, most specifically with the theories of rationalism and empiricism. These authors harken back to giants of the Enlightenment – Hume and Kant – and it is evident that the centuries old debate continues to this day. We continue to postulate the
questions: What is the nature of the mind? Does experience conform to pre-existing categories or is the mind a *tabula rasa*?

In order to understand the nature of the human being it is necessary to consider the quandary presented by consciousness. Many scientists have dismissed the problem of consciousness – our experience or awareness – because it cannot be measured in the laboratory. This problem is referred to by David Chalmers as the ‘Hard Problem:’ how is it possible for a physical organ, the brain, to produce a non-physical experience such as consciousness? Jonathan Haidt, Christof Koch, Stephen Pinker and Teilhard de Chardin offered differing theories on the emergence of consciousness. These theories will be treated in the next chapters, as any definition of the human being must attempt to explain this unique ability possessed by no other mammal.

In the last sections of this paper the leading proponents of the Embodiment Theory will be discussed. It is this theory, a non-reductionist theory, which instigates the separation from both traditional Western philosophy and the adherents of Reductionism. Herein is the paradigmatic shift from Objectivism to the ontological hermeneutical framework. Some of the prominent scientists who work within this new framework are Mark Johnson, George Lakoff, Mark Turner, Giles Fauconnier, Alva Noe and Merlin Donald. The cohesive element in each of their works is that they are non-reductionists and their emphasis is on the role and interaction of body, brain and culture in all of cognition.

These scientists are stressing the ontological, the relational, and metaphorical aspects of cognition and of our own being in the world. They have presented us with a new understanding of man and thus questions arise within this new context concerning
free will, responsibility, consciousness, evolution, and morality. If most of our thought is metaphorical and prototypical rather than abstracted universal concepts, how do we determine the most basic elements that must be present in any theory of practical reasoning or morality?

If it is true that the Embodiment Theory is gaining adherents within the scientific community and articles, books, and lectures are abounding, why is it that our educational systems continue to follow the more traditional paths? We live today within conflicting paradigms and it is the contention of this paper that much of the public at large is already operating within this new framework. We are at a crossroads of our understanding of who we are and how we truly operate within our world. The quote at the beginning of this chapter by Thomas Metzinger states that a new image of man is emerging. Metzinger, a Reductionist, was referring to the distinction between man as perceived by Western philosophers and man as viewed by the first generation of cognitive scientists who reduced all of our thoughts, emotions, hopes and loves to neuronal firings of the brain. His quote ironically is also appropriate in comparing the Reductionists to this new generation – the Embodiment Theorists. A newer image of man is emerging!
CHAPTER 2

THE REDUCTIONISTS

The contemporary scientists and philosophers who are treated in this section differ widely in their conclusions, yet all rely in varying degrees upon two sources: the findings of cognitive science and the cohesiveness of the evolutionary theory. Armed with data from both fields, the authors develop their own theses as to the meaning, interpretation, and import of the given information. The areas of interest for these contemporary writers include the topics: (1) how we acquire knowledge, (2) the existence or non-existence of consciousness and (3) the concept of free will, self, agency and responsibility. Their treatment of these topics falls within a broad spectrum, some presenting similar theses and others completely at odds one with the other.

Cognitive Science is relatively new, the main tenets of this discipline being traced back to 1956. The work of this first generation of scientists, referred to as Cognitivists, Hard-Liners, or Reductionists is summed up in the following manner:

The central intuition behind cognitivism is that intelligence – human intelligence included – so resembles computation in its essential characteristics that cognition can actually be defined as computations of symbolic representations. (Varela 2000, 40)

Cognition was viewed merely as computations occurring within the brain. It was with this new ability to test the workings of the brain in the laboratory by means of imaging, such as the fMRI, that the brain and cognition could be subjected to the scientific method. Within this milieu, truth was considered to be attained only through objective analysis in the laboratory and thus, this new science became the standard for not only how the brain
works but the scientists, secure in their findings, offered a substantially new definition of man. It must be stated that this was indeed an exciting period in the history of science, for it was the first time that the workings of the brain could be actually observed due to the development of technology. Thus it was the intersection of technology -- the computer and the fMRI -- and science that so influenced this first generation of cognitive scientists. So certain were they of their computational approach that, although there were still gaps in knowledge about the neural firings of the brain, they stated that with continued experiments we would know all that we needed to know about the brain and hence, about man.

In this chapter the most prominent reductionists – those scientists who hold that all knowledge and emotions can be reduced to neuronal activity – will be discussed, for they continue to assert a powerful role in today’s society.

_Francis Crick_

Credit is given to Francis Crick, the most prominent reductionist, for succinctly defining the parameters of this new theory of cognition. In 1995 he proposed:

_The Astonishing Hypothesis is that “You,” your joys and sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules. (Crick 1995, 3)_

It is this concise, oft-repeated sentence that has come to symbolize the first generation of cognitive scientists. There is nothing else needed to account for any aspect of the human being or his behavior, save the firings of neurons, synapses, axons and neurotransmitters. The human brain was seen as an information-processing unit and therefore it required only a small step to equate the functions of the brain with the computations of the
computer. Thus, the human being was no longer simply the ‘ghost in the machine’ but could now be relegated to the ‘brain in the vat’.

For Crick, the “mature brain is . . . the end product of a long process of evolution by natural selection . . . (and therefore is) the product of both Nature and Nurture” (Crick 1995, 10-11). We do not come into the world with the brain as a blank slate, a *tabula rasa*, but the infant brain is rather an “elaborate structure with many of its parts already in place” (Ibid.). Crick does not see the evolutionary process of the brain as proceeding in any distinct or clear manner, but rather as a series of trials and errors as the being attempted to survive in its surroundings. Crick and all the scientists of this first generation held that the evolution of the brain accounted for all the functions man experienced. For these men there is absolutely no evidence of an Intelligent Design, and moreover, there is no need for any designer. According to Crick, no engineer would ever design an organism to work in this jumbled fashion! In the process of presenting his own theories, Crick frequently harkens back to pre-scientific explanations, including a God, to demonstrate that what had been previously attributed to an outside entity can now be explained solely by the discoveries of science.

Francis Crick and his colleague James Watson achieved their place in the history of science for the unraveling of the double helical structure of the DNA molecule. Thus it was only in the last period of his life that he, Crick, devoted his energies to the establishment of a scientific study of consciousness. The idea of an immaterial, spiritual soul was anathema to this scientist and it was his endeavor to eradicate this long held notion and to replace it with an understanding of how the material brain produces mind. That project became his life’s work.
Crick is quite clear on the parameters of his work. He questions only what he considers to be relevant to our existence. Therefore, he does not question the existence of the material world: the outside world exists and it has no dependence on our observation of it. Although science is yet unable to completely understand what occurs in the universe at the smallest levels, or at the very large gravitational fields, this hardly matters. These extremes do not concern our understanding of our own physical realm and thus have no bearing on our treatment of the brain and the mind. This objective view of man is in direct opposition to the phenomenological ontological view of man as relational and is the crux of the separation between the first and second generation of cognitive scientists.

Crick and his cohorts repudiated Cartesian dualism, wherein the brain and mind were separate entities with all psychological attributes ascribed to the mind. In Crick’s theories, all psychological attributes are reduced to the brain and thus the focus of all future studies was to locate the specific areas in the brain that produce such states. Much credit must be afforded to these early neuroscientists for the groundbreaking work they performed. These scientists added much to the body of scientific knowledge and their data has proven helpful to other disciplines, including medicine, cognitive psychology and even psychiatry. However, the idea that the mind is a computer, that the human being is separate from the world he inhabits, and that freedom is an illusion infected not only the scientific world but spread to the public at large. Questions arose as to our culpability, our sense of freedom and responsibility. Within these theories of cognitivism, there is no Mystery, no gaps, no true agency. We, the public, were left with a sterile and cold perception of the miracle of our existence. In the years that followed, Crick did indeed soften some of his claims of absolute determinism but it his name and
his quotes that continue to signify the essence of that first generation of cognitive scientists who held sway in the field for some thirty years.

Daniel Dennett

Daniel Dennett, another prominent name in the field of neuroscience, was also a member of this first generation of cognitive scientists. With the advent of this new science, its members felt that they held the key to the workings of the human mind and Dennett summarized the paths of inquiry by the statement: ‘the mind is a computer.’ Dennett, Crick and their contemporaries claimed the study of the brain as theirs alone and thus that conclusions they derived could not be disputed by other disciplines since no other community, save the scientific community, had the ability to test and quantify its statements. It was their contention that science had finally attained its proper place, and, if other disciplines were to be considered valid, it was necessary for them to follow the procedures of the scientific method. Truth was limited to testing and the laboratory; all else was illusion. It was at this point that the social sciences ceded their power and their own processes to the methods of the physical sciences. Although Dennett later separated himself from the purely reductionist view that the mind is the brain, he steadfastly holds to the other tenet of this first generation – the primacy of the physical sciences:

But it should still be obvious that the innovations of science – not just its microscopes and computers, but its commitment to reason and evidence – are the new sense organs of our species, enabling us to answer questions, to solve mysteries, and anticipate the future in ways no earlier human institution can approach. (Dennett 2003, 6)

Science has replaced theology and philosophy as the discipline that can ‘answer questions and solve mysteries.’ According to Dennett, the traditional concept that we are
responsible agents due to our immaterial souls “has outlived its credibility thanks to the advance of the natural sciences” (Dennett 2003, 1). He is joined with other popular writers today, such as Richard Dawkins and Sam Harris, who contend that religion was necessary in an earlier age to lend comfort and knowledge to a populace. But, now that science has taken its rightful position there is no more need for this ‘magical’ and enigmatic system to exist. Theology and religion have out-lived their usefulness.

Dennett holds a unique perspective on many of the topics that arise for cognitive scientists, psychologists and evolutionists. He absolutely rejects any notion of mystery, of anything beyond or outside of the realm of purely physical, demonstrable occurrences. Dennett clearly separates himself from any of his contemporaries who insinuate that there is necessarily, or even potentially, something beyond the purely physical. Dennett is primarily a material reductionist. Although he extols the works of Robert Wright, who agrees with many, if not most, of Dennett’s theories, he states that Wright cannot agree on one of Dennett’s most central themes: “the claim that consciousness is “identical” to physical brain states” (Wright 2000, 398). Dennett claims that Wright regresses to a mystical account similar to that of Teilhard de Chardin. In the same vein, Dennett attacks his contemporary, Steven Pinker “whose continued dalliance with mysterian doctrines of consciousness is itself a mystery” (Dennett 2003, 21). For Dennett, there is no mystery, there is no room for anything beyond a scientific, purely logical, physical explanation for mind. If it cannot be reduced to scientific study and scientific conclusions, it does not exist for Dennett.

All explanations of who we are and why we act as we do are dependent on the physical, material brain. “Dualism, the idea that minds (unlike brains) are composed of
stuff that is exempt from the laws of physical nature, is a desperate vision which richly
deserves its current disfavor” (Dennett 1999, 28). He extends a vaulted position to the
brain, asking:

What are brains for? . . . they are for controlling the bodies they
are perched in by discriminating the meanings of the impingements
or stimuli that those bodies encounter. In short, brains are
meaning manipulators, information processors, or semantic engines. (Ibid.)

Thus meaning resides wholly within the confines of the brain. There is the brain, its
manipulations and processing, the result of eons of evolutionary development and there is
no need, nor any allowance, for any other explanation. The brain is the apex of the
evolutionary process.

Dennett has the ability to simplify complex problems. He sees no conundrum
with the fact that consciousness and the mind exist in man and that many other cognitive
or neuroscientists, such as David Chalmers, contend that there exists a serious problem
with these ‘immaterial’ occurrences arising from a purely material source. “For Dennett,
“consciousness” is a stubborn spook that some of us refuse to let go of. Just as the
Vitalists believed that life was something added to matter – until the sciences
demonstrated otherwise – there are “Mysterians” who insist that consciousness is
something over and above matter” (Fromm 2006, 165).

However, Dennett does maintain that there is a great deal of misinformation and
misunderstanding about his position on naturalism. He states that “naturalism is no
enemy of free will; it provides a positive account of free will” (Dennett 2003, 16).
It appears at first blush that he is espousing two incommensurable tenets: determinism
and free will. To understand his account, one must look closely at the distinctions he
makes and his redefinitions of terms. For him, determinism is a thesis that maintains that
at any one instant in time, all is aligned so that there is only one physical outcome. He quotes Luther’s “I can do no other.” And, this is why it is pointless to express: ‘I wish I had done other than what I did.’ Although this seems to infer that there is no free will, his view is that “free will is indeed real, but just not quite what you probably thought it was” (Dennett 2003, 223).

How does he reconcile these two concepts? Dennett contends that the traditional view of determinism is that it involves ‘inevitability’ and that this twining of the two terms, determinism and inevitability, is erroneous. In his speech before the Skeptics Distinguished Lecture Series, he states that although ‘at any instant there is only one possible outcome, this does not imply inevitability’ (Dennett 2011). The reason for this is that in a deterministic world some things are inevitable and some things are ‘evitable.’ The ‘evitable’ are those things that are avoidable by an agent who is an avoider. In the study of Evolutionary Biology, it is apparent that avoiding harm is the most necessary condition for any living being to survive. The term, ‘survival of the fittest,’ can be defined as those living beings who have learned to avoid harm and have thus survived. He states in this speech that those sitting in the audience have evolved from a long line of ‘avoiders’ (Dennett, 2011). “You spring from an unbroken line of winners going back billions of generations and those winners were, in every generation, the luckiest of the lucky, of a hundred or a thousand or even a million” (Dennett 2003, 128). He explains his meaning of ‘avoiders’ and ‘evitability’ in the following manner: a brick thrown at a person’s head will result – inevitably -- in serious injury or death of the living being. However, the ‘avoider’ has learned through the evolutionary process that upon seeing this projectile coming at him, he can duck and thus avoid the contact – an evitable result.
Therefore, the deterministic world which we inhabit does not produce inevitable results at all times, but throughout this process there is room for the ‘evitable.’ Thus, for Dennett, there is a window for a modicum of freedom within this structure of a deterministic world. The question can be raised: “Is avoidance itself a deterministic quality of evolution?” Is the brain programmed through the evolutionary process to execute the ‘evitable?’ Is there truly a modicum of freedom within Dennett’s distinctions?

This central and underlying theme of all of Dennett’s works is based on Darwin’s theory of evolution by natural selection, which he deems to be the most outstanding idea anyone has ever had:

In a single stroke, the idea of evolution by natural selection unifies the realm of life, meaning, and purpose with the realm of space and time, cause and effect, mechanism and physical life. (Dennett 1995, 21)

Like Crick, Dennett rejects any reference to Design, basing all aspects of the material universe on the evolutionary process. “Design – whether manifest in organisms or in culture – is built from the ground up by natural selection” (Orr 1996, 467). Although Dennett is a materialist, an evolutionist, a determinist and a naturalist, he is not willing to simply dispose of all traditional thought that is dearly held by most human beings. He wants to protect these ideas – such as free will, responsibility and a sense of a self. Thus, he considers it his mission to redefine free will and determinism in order to preserve some dignity for the human being.

He himself admits that the recent scientific discoveries have been quite undermining to the individual:

What you are is an assemblage of roughly a hundred trillion cells, of thousands of different sorts. . . Each of your host cells is a mindless mechanism, a largely autonomous micro-robot. . . Not a single one of the cells that compose you know who you are, or cares. (Dennett 2004, 2)
This description of man differs radically from the long held Christian notion of man made in the image and likeness of God. It is indeed a difficult task to reconcile this new assessment of the human being with any sense of freedom or dignity, but that is the task that Dennett sets out for himself. People differ one from the other by the arrangement of these robotic cells that are modified over the years by experiences and growth. In his own words, he has replaced any concept of a supernatural or spiritual soul with a purely natural soul (Dennett 2004, 5). He traces the concept of freedom as it evolved through the process of natural selection from the earliest beginnings to its presence in the human species. For Dennett, free will is “not only not eternal, it evolved, and is still evolving” (Dennett 2004, 10).

Free will is real, but it is not a pre-existing feature of our existence. . . It is also not what tradition declares it to be: a God-like power to exempt oneself from the causal fabric of the physical world. It is an evolved creation of human activity and beliefs, and it is just as real as such other human creations as music and money. (Dennett 2004, 13)

Dennett is harshly criticized by other scientists both for his re-definition of free will and for his attempt to reconcile free will and determinism. David Wilson, a biologist states:

I do object to Dennett’s attempt to redefine the term free will, which has a long accepted definition – acts without antecedent physical or psychological cause. Short of violations of physical laws by some kind of nonphysical soul, modern science seems to have made free will a fiction. (Wilson 2004, 62)

But Dennett consistently defends his views of determinism and free will and compares his views with those of Daniel Wegner:

He (Wegner) is showing that conscious will is an illusion. Wegner eventually softens the blow by arguing that conscious will may be an illusion, but responsible, moral action is quite real. And that is the bottom line for both of us. (Dennett 2004, 124)
Dennett’s view of free will is certainly not that of an independent and separate faculty. It is something that has evolved. “This story requires us to give up views of ourselves, notably, that we could, in principle, be a “perfect Kantian will,” “able to respond with perfect fidelity to all good reasons. That is physically impossible” (Watson 1986, 520).

Although Dennett has attempted to maintain some aspect of free will he is quite clear that there is no “self” in the sense that is traditionally held. “Despite all the continuity of what you take to be your “self,” there is no stable entity existing behind all the neuronal flux of your brain. Call it a soul, a spirit, a self: it just isn’t there. Or as Dennett likes to say, there’s nobody at home” (Fromm 2006, 162).

Much of Dennett’s work comprises an evaluation of what others have said or have proposed in their writings. His modus operandi is to dissect and evaluate oft-used terms and then to redefine the term by making distinctions. His work attempts to allow for some respect and responsibility to be given to the person with his distinction of the ‘evitable’ and the ‘inevitable’ and he grants honor to the ‘avoiders’ simply for the monumental task of surviving. As was stated above, there is absolutely no room for Mystery within his philosophy for fear that any concept beyond the purely material opens the door to the concept of a God. However, Dennett is one of the very few of this first generation who, like Crick, at the very least addresses the question of consciousness. Dennett remains a controversial, albeit much quoted and respected member of the scientific community and he is a prominent figure with whom the other reductionists continue to spar.
Sam Harris

Sam Harris, a member of the group dubbed the ‘new atheists,’ and the CEO of Project Reason, whose purpose is to spread scientific knowledge and secular values, has a Ph.D. in neuroscience. He is one of today’s more popular writers trying to engage the public in the reductionist view of man. It is his emphasis on the primacy of science that demands that he debunk religion and with it any attempt to resort to explanations beyond the purely physical realm. Thus, in his books, *The End of Faith* and *Letter to a Christian Nation*, he joins with Richard Dawkins, Daniel Dennett and Christopher Hitchens in their espousing of religion as an irrational endeavor. There are several positions that characterize the new atheists and form the basis of their works:

The framework has a metaphysical component, an epistemological component, and an ethical component. Regarding the metaphysical component, the New Atheist authors share the central belief that there is no supernatural or divine reality of any kind. The epistemological component is their common claim that religious belief is irrational. The moral component is the assumption that there is a universal and objective secular moral standard. (Taylor 2010)

It is thus within this analytic, objective framework that the moral nature of man according to Harris can be viewed. Of the four writers mentioned above, only Dennett is a philosopher and, as will be noted, his work is more reserved than the others. Despite his assertion that there can be no mystery, no reliance on the Divine, Dennett is willing to salvage a belief in a deity for those who need and cherish it, especially children and grandchildren (Dennett 1995, 17). Harris, on the other hand, presents a more hard line approach, leaving no room for speculation, mystery or comfort for any segment of humanity.
It is in his book, *The Moral Landscape*, that Harris states his goal “to begin a conversation about how moral truth can be understood in the context of science” (Harris 2010, 2). The basic argument for his contention that morality can be seen within a scientific context is quite simple: moral actions can be measured. An underlying premise of Harris’ is that one’s personal goal, which coincides with that of evolution, is to foster the well-being, the flourishing of the human being. His treatment of values and morality rests on this premise: “Human well-being depends on events in the world and on states of the human brain” (Harris 2010, 2). Since both the events in the world and stimuli of the brain are facts, they are capable of being measured. Harris, breaking with the tradition of David Hume, finds no area of separation between the is/ought, between facts and morality:

My goal is to convince you that human knowledge and human values can no longer be kept apart. The world of measurement and the world of meaning must eventually be reconciled. . . As with all matters of fact, differences of opinion on moral questions merely reveal the incompleteness of our knowledge; they do not oblige us to respect a diversity of views indefinitely. (Harris 2010, 10)

Herein lies the crux of Harris’ argument for situating morality within the structure of science. One must conflate the *is* – the fact of science, with the *ought* – the meaning or opinions. Facts can be analyzed and measured by science and within Harris’ utilitarian context values can and should be transformed into facts.

It is his intention to measure morality in terms of how one’s actions increase or decrease our state of well-being. But the question remains of whether or not one is responsible for these actions. In other words, are we free in choosing our path to well-being or is that path and these actions determined? Harris writes extensively about the
notion of determinism and freedom and it is in his most recent book published in 2012, 
*Free Will*, that he offers his view of freedom:

Free will *is* an illusion. Our wills are simply not of our own making. Thoughts and intentions emerge from background causes of which we are unaware and over which we exert no conscious control. We do not have the freedom we think we have. (Harris 2012, 5)

It is this thesis that Harris sets out to prove. He begins his argument by looking into the ‘background causes of which we are unaware.’ This brings him to the role that the unconscious plays in all thought and action. He develops the argument that the unconscious is an essential aspect of freedom and morality. Harris states that we are aware of alterations in our thought and behavior but “we are utterly unaware of the neurophysiological events that produce them” (Harris 2012, 7). It will be shown later that the next generation of cognitive scientists, the non-reductionists, also offer studies of the role and import of unconscious activities, but in their theories this is but one aspect of our knowing. For Harris, the unconscious activity is the prime factor in all thought and action.

We do not know what we intend to do until the intention itself arises. To understand this is to realize that we are not the authors of our thoughts and actions in the way that people generally suppose. . . the idea that we, as conscious beings, are deeply responsible for the character of our mental lives and subsequent behavior is simply impossible to map onto reality. (Harris 2012, 13)

Harris’ contention is that we are not agents of our thoughts and actions as the *illusion of free will* informs us. Rather, thoughts and behavior simply arise in our consciousness following upon activity in the brain. This is a most critical statement for Harris: the thoughts we have merely pop up in our consciousness; we have no control over their
sudden appearance. To show the time sequence of the process from unconscious to conscious, he cites the well-known and oft cited EEG study by Benjamin Libet:

> . . . activity in the brain’s motor cortex can be detected some 300 milliseconds before a person feels that he has decided to move and a fMRI study show(s) that activity in the brain occurs “a full 7 to 10 seconds before the decision was consciously made. (Harris 2012, 8)

It is these findings, showing that our brains are active prior to any conscious awareness, that propel him to state that we are not the agents of our actions.

> One fact now seems indisputable: Some moments before you are aware of what you will do next – a time in which you subjectively appear to have complete freedom to behave however you please – your brain has already determined what you will do. You then become conscious of this “decision” and believe that you are in the process of making it. (Harris 2012, 9)

The EEG and the fMRI studies cited above are used by many of the reductionists to confirm their theses that our actions and thoughts are determined. It is the constant firings of neurons within the brain that brings ideas and images unwittingly to our consciousness and determines all of our actions. We intuit a sense of freedom; we sense we are choosing one path or the other; we feel we are autonomous. In reality the brain has already determined the thoughts that arise to our consciousness, the path we will follow.

> Ironically, it is Dennett, who, in agreement with much of Harris’ works, attacks the interpretation of these studies. He does not argue with the findings, as they have been tested and re-tested by many scientists. However, accepting the findings does not mean for Dennett that one must accept the popular interpretation of those findings.

> Faced with this presentation of the primacy of the unconscious by Harris and others, Dennett contends that there is so much going on within the human being, known
and unknown at this time in history, that it makes sense that the brain must do something first. For Dennett, however, that does not mean that the brain is the sole arbiter of all of our actions. In our system it is the brain that has control over the body so it makes sense that it must be activated first. In other words, it takes time for conscious decisions to be made. There is a lag, a gap, but the activity of the brain is what is referred to as the ‘readiness potential.’

Dennett expends a great deal of time and energy analyzing Benjamin Libet’s EEG time lag test and he states his conclusions as follows:

(W)e can see that our free will, like all our other mental powers, has to be smeared out over time, not measured at instants. Once you distribute the work done by the homunculus . . . in both space and time in the brain, you have to distribute the moral agency around as well. You are not an extensionless point. What you do and what you are incorporates all these things that happen and is not something separate from them. Once you can see yourself from that perspective, you can dismiss the heretofore compelling concept of a mental activity that is unconsciously begun and then only later “enters consciousness.” (Dennett 2003, 242)

It is clear that Dennett, unlike Harris, is not willing to isolate each step of the process into a ‘before’ and ‘after’ event, but rather to incorporate the intricate process into a whole. The process of thinking and choosing involves innumerable interactions and thus far we are not able, and should not attempt, to formulate a time line. Thus, for Dennett, who holds to a deterministic stance, some wiggle room is allowable when a sense of ourselves is being thoroughly threatened.

Although our thoughts and behavior spring unwittingly from our unconscious, Harris is not trying to say that what we do does not matter. The fact that we do not have free will, does not mean that we are not responsible for outcomes in the world.
Decisions, intentions, efforts, goals, willpower, etc., are causal states of the brain, leading to specific behaviors, and behaviors lead to outcomes in the world. Human choice, therefore, is as important as fanciers of free will believe. But the next choice you make will come out of the darkness of prior causes that you, the conscious witness of your experience, did not bring into being. . . From the perspective of your conscious awareness, you are no more responsible for the next thing you think (and therefore do) than you are for the fact that you were born into this world. (Harris 2012, 34-35) Harris sets out to show that the theories of Dennett and other compatibilists -- those who think that causal determinism and free will can co-exist -- cannot hold up to scientific inquiry. Daniel Dennett and Russell Blackford criticize him for his methodology but also for his dismissive demeanor towards the compatibilists. According to Blackford, “the views of the compatibilists . . . have been a key component of the conversation for over two thousand years” (Blackford 2012). Although Harris is not specific in his denunciation of the compatibilists, Blackford holds that his attacks are unfounded:

From ancient times to the present day, compatibilist philosophers – whether Stoics, early modern thinkers such as Thomas Hobbes, Enlightenment figures like David Hume, or contemporary successors to the tradition of Daniel Dennett – have attempted to do what philosophers do best; they have tried to reason clearly and carefully about a deep but elusive topic of general importance. (Blackford 2012) Blackford is not arguing the truth or falsity of compatibilism but his intent is to point out that Harris’ approach to dealing with opposing views is to simply dismiss or ridicule theories without giving any cogent arguments to support his stand. He does not advance the discussion of a most important topic, which is deserving of an in depth conversation.

Harris responds to the criticisms in his Opinion piece “Free Will is an Illusion – and Must be Exposed.” He states that he and Dennett agree on the following fundamental points that:
The conventional (libertarian) idea of free will makes no sense and cannot be brought into register with our scientific picture of the world. We also agree that determinism need not imply fatalism and that indeterminism would give us no more freedom than we would have in a deterministic universe. (Harris 2012a)

In order to clarify the above quote it is necessary to see that for Harris the “idea of free will emerges from a felt experience” (Harris 2012, 15). The fact that this is a psychological experience is lost when one enters the discipline of philosophy according to Harris. He, therefore, distinguishes three distinct approaches to free will that are found in philosophical literature: determinism, libertarianism, and compatibilism. In the first two, free will is deemed an illusion since our behavior is “fully determined by background causes” (Harris 2012, 15). However, libertarians hold that though we are determined, we can rise above this condition and at times they resort to the existence of a ‘soul’ to explain their position. It is the negating of any reliance on something beyond the physical realm that Harris states puts him in agreement with Dennett. Also, both agree that indeterminism would cause chaos and we would have no freedom, as there would be no solid foundation, no cause and effect in a purely random world. It is the compatibilists – those who hold that free will and determinism can co-exist – that disturbs Harris most.

Having firmly situated Dennett within the compatibilist milieu, Harris distinguishes their positions:

Dan seems to think that free will is like colour. People might have some erroneous beliefs about it, but the experience of freedom and its attendant moral responsibilities can be understood in a similarly straightforward way through science. I think that free will is an illusion and that analogies to phenomena like colour do not run through. (Harris 2012a)
Harris sees Dennett and his followers as promoting a set of false beliefs about freedom. What they are proposing cannot stand the test of science and they “skew our moral intuitions and anchor our system of criminal justice to a primitive ethic of retribution” (Harris 2012a). This is an important aspect of Harris’ theory of freedom and responsibility. Ordinary people feel justified in blaming an individual for an evil act and therefore, they feel justified in demanding retribution. But, according to Harris, “(w)e should admit that a person is unlucky to inherit the genes and life experience that will doom him to psychopathy” (Harris 2012a). Harris employs the term ‘unlucky’ several times in his treatise on free will. Our thoughts and actions are determined by our genes, our brains and our situation in the world: some people are lucky and some are unlucky. Thus, some people are morally responsible adults and others are psychopaths – it is all simply a matter of luck. As Brian Green states, Harris situates us in a world in which “the neurally elect prosper and the neurally damned do not. . .” (Green 2011, 364).

It must be stated also that for Harris, the brain is not the sole arbiter of our thoughts and actions. As was stated above, his main interest is in human well-being, our ‘flourishing,’ which is dependent on the states of the brain but also the events in the world. He is well aware of the influence of our society and the conditions into which we have been ‘thrown.’ We have no choice at all about our parents, our sex, our century, our country, our disposition. These are the circumstances into which we are born and they greatly influence the development of our brains.

Harris separates his worldview from two prominent groups: (1) those who believe in a God and thus hold that moral truths exist and (2) those who hold that our notions of good and evil can be traced to our evolutionary development (Harris 2010, 2).
In his work, *The Moral Landscape*, he is quickly dismissive of religious beliefs and states that while we must credit the evolutionary process with the development of our brains, “our brains were not designed with a view to our ultimate fulfillment” (Harris 2010, 13). Evolving creatures were concerned with survival and the propagation of the species and not with the issues that arise in the cultural and intellectual world of today. The respected contemporary writers all accept evolution as a base line of their writings. Sam Harris is no exception. However, many writers are placing their efforts in the tracing of evolutionary strands from the earliest known beginnings to the present in an attempt to show an unbroken line in our human animal development. Patricia Churchland and Paul Zak are tracing the presence of the hormone oxytocin through the ages, while others are tracing the importance of cooperation in the animal kingdom to its presence in *homo sapiens* and its development into a theory of morality. Sam Harris is certainly accepting evolution and the development of the brain throughout the ages, but as he states so clearly, we are way beyond the concerns of the animal kingdom. We are at a new stage, culturally and intellectually, that bears no resemblance to the past, which cannot be explained by evolutionary history and developments. For Harris, we are well beyond what evolution had to offer: “(O)ur modern concerns about meaning and morality have flown the perch built by evolution” (Harris 2010, 14).

There is a great deal of controversy about Harris’ theses but the fact remains that his “book has achieved its purpose – to launch a debate on the relation between science and ethics” (Taranu 2011, 159).
Patricia Churchland

Patricia Churchland, a Canadian American philosopher, has concentrated much of her work on the study of the brain. She offers a unique theory for the development of consciousness and the mind, relying on the findings of evolutionary biology.

In her article “The Neurophilosophical Slant on Consciousness Research,” she dismisses the traditional mind/body problem by stating that:

The classical mind-body problem was how the nonphysical stuff that makes up the immaterial soul can causally interact with the material stuff that is the body. . . . But we can see now that interaction is a pseudo problem. (Churchland 2005, 285)

While it is obviously true that today’s scientists and philosophers do not look at the human being as being composed of two distinct separate parts – a body and a soul – the question of the presence of consciousness still exists. The question today is not “How does an immaterial soul interact with a material body?” but rather how does one explain the presence of consciousness at all. How does a study of the brain – a purely physical body part – produce an immaterial feeling, a *qualia*? Churchland appears to conflate the two problems: body/soul and brain/consciousness. Other scientists who are willing to address the question of consciousness are confounded by its appearance in man and contend that the brain alone cannot explain its presence.

For Churchland there is no ‘leap’ from the purely material to the phenomenal but rather there is a direct line stemming from the animal kingdom to man through the evolutionary process. She states that “thinking, feeling and experiencing . . . are events of the entirely physical brain” (Churchland 2005, 285). The fact is that we have thus far not been able to explain this phenomena but: “Explaining the nature and mechanisms of
conscious experience in neurobiological terms seems to be an attainable, if yet unattained, goal” (Churchland 2005, 285). This approach has many adherents but is a more linear method than the study of the interaction of the brain, body and the culture promulgated by the non-reductionists.

Churchland’s approach to morality and values is, like Daniel Dennett, purely biological in nature. She likens her approach to that of Aristotle and others who are naturalists, and contends that with our modern day advances in the sciences it is now possible to “explore in earnest the connections between morality and the evolution of the mammalian brain” (Churchland 2011, 11). But the question arises as to how a material organ can care about anything or be responsible for anything? “What does it mean for a system of neurons to care about or to value something” (Churchland 2011, 13)?

Churchland states that the foundation of values and morality exhibited by humans today can be traced back to caring in the animal kingdom. It is first of all the caring for the individual itself that drives the animal to survive. If this drive is not present, the animal will not thrive and therefore, it will not survive and reproduce. This caring is fundamental to the survival of the species.

A compelling line of evidence from neuroendocrinology, which studies hormone-brain interactions, suggests that in mammals . . . the neuronal organization whereby individuals see to their own well-being was modified to motivate new values – the well-being of certain others. In the early stages of the evolution of mammals, those others included only helpless offspring. (Churchland 2010, 14)

Over the centuries this closed circle, within which the caring for offspring was paramount, began to widen its embrace to include mates and kin. This is a most important step in mammalian behavior and it is this caring for others in social
development that marks “the emergence of what eventually flowers into morality” (Churchland 2010, 14).

Thus, the natural process of evolution is for Churchland an almost seamless account of the behavior of the animal kingdom leading to the explanation of human behavior. The reliance is not only on the physical development of the brain but also more specifically on the development of a chemical chain of amino acids:

Oxytocin, a very ancient peptide. . . is at the hub of the intricate network of mammalian adaptations for caring for others, anchoring the many different versions of sociality that are seen, depending on the evolution of the lineage. . . Oxytocin is found in all vertebrates, but the evolution of the mammalian brain adapted oxytocin to new jobs in caring for offspring and eventually for wider forms of sociability. (Churchland 2010, 14)

Thus for Churchland, it is the purely physical brain and the accompanying amino acids that are responsible for the development of caring within the animal kingdom. Churchland adds to this underlying foundation two evolutionary changes occurring in the brain that she holds are essential for the positive social interaction of mammals. These involve emotions associated with the caring of the young. The animals suffered from fear and a sense of anxiety if separation from the young occurred and a sense of pleasure and relief if a reunion ensued. The second modification of the brain was “an increased capacity for learning, linked to pain and pleasure, that served an individual in acquiring knowledge of the “ways” of others in the group” (Churchland 2010, 15). It was this new learning, this expanded memory of what has been beneficial to the individual that enabled the animal to anticipate dangerous situations and to begin to band together more effectively. Churchland explains this phenomenon:

(T)he idea is that attachment, underwritten by the painfulness of separation and the pleasure of company, and managed by the intricate neural circuitry and neurochemicals, is the neural platform for morality. (Churchland 2010, 16)
The tying of our moral values to our physical and natural evolution alters significantly the way one looks at morality. There is much within our own experience that validates Churchland’s theory of attachment. The question that arises is whether this theory of attachment is the sole source of our values. Is it only the evolutionary drive for the preservation of the species that propels us to care for the young and to extend that care to others in our group? Is there a purely physical, evolutionary explanation for human values and morality?

Churchland devotes the last chapter of her book, *Braintrust*, to the relationship between religion and morality. She admits at the onset that traditionally it is religions that have formulated rules for action that have coincided with their teaching of good and evil. She states that fairness requires her to look closely at the segment of the world that depends on a supernatural being in order to formulate a morality. She dismisses the need of a higher being and contends that morality is a natural, not a supra-natural ability:

> Morality seems to me to be a natural phenomenon – constrained by the forces of natural selection, rooted in neurobiology, shaped by the local ecology, and modified by cultural developments. . . regarding the neural basis of moral behavior, morality is as real as can be . . . (It) should not be cheapened by the false dilemma: either God secures the moral law or morality is an illusion. It is a false dilemma because morality can be . . . grounded in our biology, in our capacity for compassion and our ability to learn and figure things out. (Churchland 2010, 199-200)

Thus, for Churchland, the basis for human morality is found in the evolutionary development of the mammalian brain coupled with the attending amino acids. And, it is these workings that promote the attachment that is essential to survival of the individual animal and its offspring. Following on this physical development are the emotions of fear and anxiety, reward and satisfaction that continue to influence development and to
enlarge the initial circle so that others may be included. It is the reaching out for mutual satisfaction and survival that lies at the foundation of our moral actions. We are constantly amending and expanding our knowledge and thus our moral influence. There is no need, according to Churchland, to rely on an outside entity – a God or supreme being – to formulate what is the best and most productive response to any given situation.

It is evident that Churchland, like Dennett, relies on evolutionary biology to formulate her thesis. What is emphasized in their work differs and for Churchland the tracing of the evolutionary development of oxytocin from the animal kingdom to the human being is the focus of her work and a naturalistic explanation of the moral code that we experience today.

Churchland is not alone in placing oxytocin in the center of a theory of morality. Michael Shermer explains Paul Zak’s view of the importance of the hormone:

Mr. Zak, . . . has built his reputation on research that has identified the hormone oxytocin as a biological proxy for trust…Countries whose citizens trust one another gain economically…trust is built through mutually beneficial exchanges that result in higher levels of oxytocin. (Shermer 2012, C10)

Michael Shermer continues his review of Zak’s *The Moral Molecule* by stating that oxytocin has evolved for only one purpose: “…pair bonding and attachment in social mammals – but (it) had the bonus effect of cementing a sense of trust among strangers” (Shermer 2012, C10).

Zak, a neuroeconomist, gives great weight in this new science to oxytocin and the ability to measure levels of the hormone in economic situations. The importance of this hormone given by these two scientists implies that this is a contributing factor in our development. It remains to be seen if, in the future, Churchland’s reductionist theories
remain or if the studies by Zak and Churchland become only one element in a more complete and encompassing theory.

In summary, the Reductionists, who were instrumental in the cognitive revolution that reduced all of human activity to the neuronal functioning of the brain, remain powerful in today’s scientific and cultural worlds. Within this framework man is determined genetically and is composed of the “assemblage of roughly a hundred trillion cells . . . (and) not a single one of the cells that compose you know who you are, or cares” (Dennett 2004, 2). The goal of our evolutionary process is to flourish; there is no self; our ability to choose is illusory, with some ‘Elbow Room’ given by the compatibilists; the human brain is fodder for laboratory testing.

Much credit must be given to these pioneers who unearthed much of the intricate workings of the human brain. Their data is invaluable and it is due to their initial offerings that those who followed in their wake had a body of work to critique and upon which to improve. A new definition of man was demanded.
CHAPTER 3
RATIONALISM AND EMPIRICISM

Many contemporary writers make reference to earlier theories, most especially to those of David Hume and Immanuel Kant, both of whom dealt with the question of the nature of the mind, yet arrived at opposing conclusions. Both writers were seeking Truth without the need to resort to a religious context. Did we know things through our experience, through sensory input or were we born with ideas already present in the mind in some form? How do we know the ‘outside’ world? Thus, we see the similarity in questions today. Is the mind a ‘blank slate’ or has the brain evolved with predisposed ‘categories’ in which that experience is processed?

David Hume (1711-1776), a Calvinist of Scottish origin, was one of the strongest proponents of Empiricism. His epistemology can be reduced to the statement that all knowledge and all ideas come from experience and that “All the objects of human reason or enquiry may naturally be divided into two kinds, to wit, Relations of Ideas, and Matters of Fact” (Hume 1955, 25).

When Hume speaks of matters of fact, he is referring to the data we receive from our sensations, our impressions, which are immediate and forceful. Our ideas, on the other hand, are derived from these initial impressions as they reside in our memory. Hence, they are less poignant, less intense and less powerful. The original, sensory experience is an impression, whereas the memory of that sensation is an idea (Cahoone 2010). These two categories exhaust all possible knowledge, according to Hume.
Can one rely on the information received from these two sources of knowledge? It is here that Hume distinguishes two notions of causality, two ways by which we can know that something is true: *constant conjunction* and *necessary conjunction*. Custom or habit guides our beliefs but there is no rationale for these beliefs as they are not necessary and hold no power over future events (Reynolds 2010). His conclusion is that for something to be deemed as true, there needs be a necessary conjunction which is impossible for one to ascertain as we cannot experience the future to know if that will occur. This anti-rationalism was imbued in much of his works and skepticism followed in Hume’s wake. It was his contention that reason did not move one to action but rather: “Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them” (Hume Treatise, 295). And he states further that: “Morals excite passions, and produce or prevent actions. Reason itself is utterly impotent in this particular. The rules of morality, therefore, are not conclusions of our reason” (Hume Treatise 325).

However, it is Hume’s definitions of necessity and liberty that are of major interest in this paper. He argues that the two are compatible and that Liberty requires Necessity, for our actions must have a connection with circumstances and motives or they would be reduced to chance occurrences, which is not allowed to exist in the physical world. Thus it is that those who ascribe to the theory of free will today harken back to the tenets offered by Hume.

Immanuel Kant (1724-1804) set out to refute Hume and to find a way to validate the new science, which was deemed the pinnacle of rational thought. Addressing the existing theories of knowledge, Kant asked the most important question that any seeker
can formulate: ‘what if?’ Kant stepped away from centuries of accepted epistemological theory and questioned the basic premise that our minds are passive and correspond to reality. In other words, it has been the accepted thesis in the Western world that objects in the outside world make some kind of an ‘impression’ on our minds, which are passive. What would it look like if one upturned this premise and stated that it was the mind itself that is active and the outside world conforms to our minds? Looking at the mind as an active participant in knowledge was a unique and revolutionary approach, one that has been taken into account by theorists in the centuries that followed.

In order to explain the activity of the mind, it was necessary for Kant to posit a new category, synthetic a priori knowledge (Cahoone 2010a), beyond Hume’s two categories of matters of fact and the relation of ideas. Kant agrees with Hume that all of our knowledge comes from experience but an active mind would organize the raw data in a prescribed manner. His claim is that the mind is inherently structured in a certain way to receive, interpret and process data in a consistent manner so that we can, with certitude, know that our experience of the world will be the same tomorrow as it is today. There is no need for skepticism for we are not doomed to accept and act on information simply out of habit or custom.

According to Kant, “there are two pure forms of sensible intuition, serving as principles of a priori knowledge, namely, space and time” (Kant 2003, 67). It is these forms – space, time and the categories – that determine what is possible for us to know. In other words, our minds determine the scope of the world in which we live, for we cannot experience anything that does not conform to these categories.
The foundation that these figures, Hume and Kant, have constructed of empiricism and rationalism are still in existence today. How we know and what we can know plays a pivotal role in the theories being put forth by the scientists and philosophers under consideration herein. In addressing the work of Jonathan Haidt and his contemporary, Steven Pinker, the basic tenets of Hume and Kant will, once again, be brought to the fore.

Jonathan Haidt

Jonathan Haidt, in a vein similar to Hume, has drastically reduced the role of reason in making moral judgments and has put emphasis on the immediate emotional reaction to a situation. Haidt sums up the roles of the two earlier philosophies:

Hume’s emotivist approach to ethics was not well received by philosophers. Kant’s rationalist ethical theory was created as an attempt to refute Hume, and Kant has had a much larger impact than Hume on modern moral philosophers . . . many of whom have followed Kant in attempting to deduce a foundation for ethics from the meaning of rationality itself. (Haidt 2001, 816)

According to Haidt, “Rationalism still rules, and there appears to be a consensus that morality lives within the individual mind as a traitlike cognitive attainment. . . .” (Haidt 2001, 816). Haidt does not attempt to deny the existence of moral reasoning, as it is obvious that one is constantly involved in the process of defending a judgment to oneself or to others. The question remains, though: is there evidence to show that reasoning is the cause of the professed judgment or does experimentation indicate that it is a consequence?

The accepted view in the 1990’s was that a belief caused a judgment. For instance, a person who thought that life began at conception (the belief) would most
likely be against abortion (the judgment). Haidt is offering a different viewpoint in his
intuitionist interpretation. His contention is: “The anti-abortion judgment (a gut feeling
that abortion is bad) causes the belief that life begins at conception (an ex post facto
rationalization of the gut feeling)” (Haidt 2001, 817).

The central claim of the social intuitionist model is that moral judgment
is caused by quick moral intuitions and is followed (when needed) by slow,
ex post facto moral reasoning. Clear definitions of moral judgment, moral
intuition, and moral reasoning are therefore needed. (Haidt 2001, 817)

Haidt is well aware that he has turned the accepted Western version of moral judgment
on its head. He concludes his article of 2001 with the statement: “The time may be right,
therefore, to take another look at Hume’s perverse thesis: that moral emotions and
intuitions drive moral reasoning, just as surely as a dog wags its tail” (Haidt 2001, 830).

The distinction between those theorists who stress experience as the prime source
of our contact with the outside world, and the neo-Kantians who stress the configuration
of the mind as the prime source of our knowledge, has been discussed above. Although
Haidt strongly endorses the Humean ‘emotive approach to ethics,’ he does contend that
the mind is designed to “do” morality – we are intrinsically moral beings:

I could have titled this book The Moral Mind to convey the sense that the
human mind is designed to “do” morality, just as it’s designed to do
language, sexuality, music, and many other things. . . But I chose the title
The Righteous Mind to convey the sense that human nature is not just
intrinsically moral, it’s also intrinsically moralistic, critical, and judgmental.
(Haidt 2012, xiii)

Whereas Churchland and Zak attribute caring and cooperation in the animal
kingdom to the hormone, oxytocin, Haidt contends that it was the evolutionary
development of the righteous minds, culminated in human beings, that made it possible
for us to form groups and tribes in a spirit of cooperation. Thus, he is not tracing the
elements of cooperation back into the animal kingdom, but rather is looking at the
developed human mind wherein these qualities are present.

Haidt sets out to identify the evolved “universal cognitive modules upon which
cultures construct moral matrices” (Haidt 2012, 124). He and Craig Joseph, his research
partner, referred to this approach as the Moral Foundations Theory. They looked for
adaptive challenges that were found in evolution and then related them to virtues that are
found in diverse cultures. They were able to identify five virtues, and their opposing
vices, that were most universal. They referred to these as the ‘five foundations of
morality,’ in that they were deemed to be the modules or intuitions out of which we
automatically acted. The five virtues are: care, fairness, loyalty, authority and sanctity
(Haidt 2012, 125). Each virtue was analyzed as to the vice associated with it, the
evolutionary adaptive challenge, the original and the current triggers that bring this to the
fore, and the emotions that are connected with the challenge. The main point that Haidt
and Joseph focus on is that if the animal kingdom was faced with certain repetitive
challenges over the centuries, then natural selection would “favor those whose cognitive
modules helped them to get things right – rapidly and intuitively – compared to those
who had to rely upon their general intelligence . . . to solve recurrent problems” (Haidt
2012, 125). The following list represents the first draft of the five adaptive challenges
that needed to be overcome in the evolutionary process and the intuitive ‘moral virtues’
that were developed by natural selection in order to survive:

<table>
<thead>
<tr>
<th>The Adaptive Challenge</th>
<th>Virtue/Vice</th>
<th>Current triggers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect and care for children</td>
<td>Care/harm</td>
<td>Baby seals</td>
</tr>
<tr>
<td>Reap benefits of two-way partnerships</td>
<td>Fairness/cheating</td>
<td>Marital fidelity</td>
</tr>
</tbody>
</table>
Form cohesive coalitions Loyalty/betrayal Sports teams
Forge relationships within hierarchies Authority/subversion Bosses
Avoid contaminants Sanctity/degradation Taboo ideas

These early modules are still in use in today’s society and it is these innate modules and the combination thereof that gives rise to one’s immediate, intuitive moral judgment, followed by a rational explanation. Haidt defines the innateness of the modules as “organized in advance of experience,” like the first draft of a book that gets revised as individuals grow up within diverse cultures” (Haidt 2012, 153). He concludes that we respond immediately to a situation based on the innate modules that have evolved over the centuries. We do not make moral judgments based on a rational argument from which the proper action will necessarily flow. For Haidt, the rationalism of Kant is overridden by the emotionalism of Hume.

Jonathan Haidt has made an impression, not only on his fellow writers like Stephen Pinker but also on the American public at large. He has used the innate modules to help explain the seemingly irreconcilable differences that exist between the main political parties in the United States. It is his contention that the Republican Party employs many of the modules, such as ‘fairness,’ ‘authority’ and ‘loyalty,’ to arrive at their positions, whereas the democrats rely mainly on the module of ‘care’ (Haidt 2012, 182-86). Since the parties act from separate modules, it is virtually impossible for them to listen to and understand the other. This is the reason, he contends, that there is such a stalemate in Washington, and a demeaning of the principles of the adversaries. It is noteworthy that his theories have received enough credence that both political parties have employed him as a consultant. Thus, the theories of communication, persuasion and
moral action have reached beyond the halls of academe and are beginning to play an active role in formulating and understanding public opinion. In the later discussion of the Embodiment Theorists, a thesis of this paper will be offered stating that different groups or ‘worlds,’ operating under different paradigms, or metaphors, can formulate communication and resolution only when some inter-connecting circles can be formed.

Haidt separates himself from the Enlightenment theorists who offered rationalist models for moral judgment. These rationalist theories held that once the mind attained the facts of the situation -- the is -- the ought of the situation followed naturally. As is seen above, Harris conflates the is/ought, facts and morality, so that both aspects can be viewed and measured by science. Haidt, however, takes a different approach, stating that: “. . . moral reasoning does not cause moral judgment: rather, moral reasoning is usually a post hoc construction, generated after a judgment has been reached” (Haidt 2001, 814). In other words, Haidt is reversing the order of the is/ought promulgated by the Enlightenment theorists. Haidt calls this approach the social intuitionist model, referring to his view as follows:

There are moral truths and that when people grasp these truths they do so not by a process of ratiocination and reflection but rather by a process more akin to perception. . . Thomas Jefferson’s declaration that certain truths are “self-evident” is an example of ethical intuitionism. Intuitionist approaches in moral psychology, by extension, say that moral intuitions (including moral emotions) come first and directly cause moral judgments. (Haidt 2001, 814)

Both Joshua Greene and Haidt agree with E. O. Wilson, who predicted in 1975 that “ethics would soon be “biologicized” and refounded as the interpretation of the activity of the “emotive centers” of the brain” (Haidt 2012, 67). Thus, it is apparent that Haidt stands with other scientists, like Churchland, who state that morality is dependent on our biology. However, Haidt, a professor of Psychology, does offer an explanation of
how these modules under which we operate were developed and are the basis of our moral judgment today. In Hiadt’s book on the *Righteous Mind* he does not address the question or the dilemma of free will. His basic message is that the emotional response to a situation is immediate and unbidden and dependent on pre-formed modules, allowing little ‘elbow room’ for freedom of choice.

*Stephen Pinker*

Stephen Pinker, a cognitive scientist and linguist, relates to both Jonathan Haidt and Noam Chomsky in the main elements of his thought. Much of Pinker’s work deals with the development of language and in his book *How The Mind Works*, he aligns himself with Chomsky, whose theory can be capsulated in the following manner:

(O)ur mind is best understood as an organized collection of innate cognitive faculties or modules, among which language is one. We acquire a language by virtue of the prior linguistic knowledge coded innately into our brains, not because our brains are empty receptacles equipped merely to retain the traces of the linguistic inputs they have received. (McGinn 2012, 1)

Thus, for Chomsky, Haidt and Pinker language is innately structured.

It is of interest to see how Pinker arrives at his theories. His methodology involves offering up the theories of others and then refuting them one by one. This was his process in *How the Mind Works* written in 1997 and is the same method he employs in *The Blank Slate* in 2002. In both works he traces the history of the prominent philosophers, scientists and theorists that deal with the mind and its processes. He equates the present day theory of the ‘blank slate’ with the earlier theories of Rousseau and the ‘noble savage,’ and the Cartesian ‘ghost in the machine.’ The tension between the theory of innate ideas and empiricism exists in our contemporary world. Are we born
with a set of ideas that must be awakened or is there a blank slate that becomes filled through experience? Or is there some combination of both? The question of how we relate to the outside world, how we ‘know’ is paramount for it essentially defines who we are. For instance, in behaviorism, “there is no such thing as a talent or an ability” (Pinker 2002, 19) but rather the mind is a blank slate and the optimistic view is that the young mind can be formed through constructive training. It is Pinker’s contention that these varied and opposing theories are collapsing today because of the following:

New ideas from four frontiers of knowledge – the sciences of mind, brain, genes and evolution – are breaching the wall with a new understanding of human nature. (Pinker 2002, 31)

And what is this ‘new understanding of human nature?’ Once again the understanding of human nature is based on discovering the intricate workings of the human brain. Pinker “lays out why evolution and computation are the keys to figuring out how the brain enables mind” (Gazzaniga 1998, 38). In agreement with other scientists, such as Dennett, Pinker states that the brain is the mind:

One can say that the information-processing activity of the brain causes the mind, or one can say that it is the mind, but in either case the evidence is overwhelming that every aspect of our mental lives depends entirely on physiological events in the tissues of the brain. (Pinker 2002, 41)

Pinker holds that our brains were developed through the evolutionary process and that “computation is the mechanism by which the neural nets interact to produce the organism’s dazzling array of capacities” (Gazzaniga 1998, 38).

Colin McGinn, in his review of Pinker’s How the Mind Works, enunciates the four main components of the theory:

1. Computationalism: the mind processes information; it is, in effect, a neural computer.
2. Modularity: the mind is modular... it incorporates a motley of distinct “computer programs”... each with its own function and mode of operation... modules for language, vision, understanding the minds of others...

3. Innateness: each of these computational modules is genetically fixed.


It is interesting to note that, although Pinker relies heavily on evolutionary theories to formulate his theory of mind, he stresses the fact, like Harris, that our concerns today have “flown the perch built by evolution” (Harris 2010, 14). Our brains are wired to an ancient era. In this more complicated day, we are no longer simply driven to reproduce our own species, but are involved in moral, social and intellectual pursuits.

Although Pinker has a materialistic view of the mind, he holds that one can maintain that premise and not hold that the mind is “inherently amoral” (Pinker 2002, 187). Pinker holds great respect and awe of the brain that functions in the human being:

The talents that are human birthrights – speaking and understanding, using common sense, teaching children, inferring other people’s motives – will probably not be duplicated by machines in our lifetime, if ever. All this should serve as a counterweight to the image of the mind as a formless raw material and to people as insignificant atoms making up the complex being we call “society.” (Pinker 2002, 197)

It is this line of thought that separates Pinker from Dennett. Pinker agrees with the basic premises of the Reductionists – that all can be reduced to the neuronal firings of the brain – but he sees more into the human being than simply the robotic reactor to stimuli. Dennett has accused Pinker of employing ‘mysterian’ overtones, but it appears that Pinker is confronted with a being that has somehow transcended its’ background.

Pinker holds to the Chomskyan view of the modular mind and contends that the moral sense may also be rooted in this same design. In this he is in agreement with Haidt...
and his five modules. Pinker even goes so far as to state in his article “The Moral
Instinct” that “Though no one has identified genes for morality, there is circumstantial
evidence they exist” (Pinker 2008). He agrees that these spheres have an evolutionary
base and are therefore universal. However, it is our experience, attested to by
anthropologists, that there is a broad spectrum of interpretation of these modules
throughout different cultures. Pinker maintains that “the moral sense can be universal
and variable at the same time. . . But how they are ranked in importance, and which is
brought in to moralize which area of social life . . . depends on the culture” (Pinker
2008). One must take into account not only how various cultures rank the modules in
importance, but also how the individual ranks the five spheres postulated by Haidt within
himself. Thus, we find within our own communities, a wide variance of these rankings.
It is due to the weight given to each module that will tend to determine moral actions.
“The ranking and placement of moral spheres also divides the cultures of liberals and
conservatives in the United States” (Pinker 2008).

Pinker is situated in the prestigious contemporary community of Chomsky and
Haidt. Although he holds that the mind is the brain, he has gone beyond that first
generation of cognitive scientists in his interpretations of the nature of the human being.
There is a recognition that there is something, deem it mysterious, that extends us beyond
the confines of the skull. He also separates his works from the traditional religious
beliefs, from the pure empiricists, from those who honor the ‘noble savage’ and from the
Cartesian ‘ghost in the machine.’ Like Harris he stresses our evolutionary strands but
contends that we have far surpassed the original blueprint. He does maintain that we
possess a sense of morality and that our “moral salvation lies in the war among our mental modules” (McGinn 2012).
CHAPTER 4
THE PROBLEM OF CONSCIOUSNESS

Scientists privy to the same data and information from cognitive and neuroscience have offered various accounts of the nature of the human being. For the most part they are reductionists: If there is something that is unknown, it will eventually be discovered in the laboratory. There are no mysteries; there are only unknowns.

However, not all contemporary scientists are reductionists. The question that looms for this next selection of scientists is the presence of consciousness and how that affects our intuition of free will. They face head-on the dilemma of a physical source of the phenomenal mind. How can this mind ‘emerge’ out of the material brain? They accept that the mind and consciousness are qualitatively different and distinct from all that preceded it and they try to offer plausible theories as to how this could occur in an evolutionary process where one level is presumed to supervene on a lower level. We stand today on an evolutionary time line of millions of years, yet our knowledge of the brain and its workings is less than one century old. Thus, the contemporary theories that are put forth concerning cognition, consciousness and morality must be viewed as very initial offerings. A definitive theory is not possible and it can only be claimed that one theory appears to encompass more of what we know and experience than another theory. Also, it is possible to state that a theory appears to have a structure that is capable of being enhanced and expanded. Thus, it must be stated that we stand today in the midst of a myriad of theories and that, with the passage of time, hopefully we will uncover a clearer concept of who we are – we will develop a ‘newer image of man.'
It is our experience of consciousness that presents the over-riding dilemma to scientists since our experience of how something feels, *qualia*, cannot be measured in the laboratory. Why is it that something that is so apparent to the common man as his awareness of himself and his surroundings cannot be explained by science? The mystery lies in the fact that no one can explain how a physical activity, the firings of neurons in the brain, can produce a phenomenal feeling. How can a physical entity produce something that is outside, above, beyond its nature? If the problem is stated in these terms a divide between the physical and the phenomenal arises, a gap that cannot be bridged. This mind/body dualism of the Objectivist Philosophy rears its head again!

For the most part, until quite recently, scientists have avoided the subject of consciousness. With the explosion of the field of cognitive science and the tools of the trade, such as the fMRI, most scientists contented themselves with tracing the brain waves and excitement of particular neurons to determine which parts of the brain were involved in certain activities. The experimenter can see that the color ‘red’ incites a certain area of the brain, but the question of how that ‘feels’ is beyond the scope of the laboratory. In other words, why does this physical firing present a ‘feeling,’ an experience? There is no way to explain why we feel pain when certain parts of the body are activated. In other words, science can account for the activity but not for the subsequent experience.

Consciousness – experience -- remained an enigma and any scientist who undertook the study of consciousness, of awareness, was deemed to be outside the circle of serious study. However, a change did occur in the last few decades and consciousness has become a legitimate subject of discussion.
Theories of Consciousness

Although Christof Koch can be considered a reductionist, he is being treated in this section because of his dedication to the study of consciousness and his intellectual involvement with others who offer a broader philosophy, such as David Chalmers and Teilhard de Chardin. Koch, author of the book, *Consciousness: Confessions of a Romantic Reductionist* and a professor of Biology, collaborated with Crick for many years in the study of the brain and consciousness. Thus, his collaboration with Crick represents the reductionist end of the spectrum but Koch does present a wider scope of the problem. He states very clearly that “The pursuit of the physical basis of consciousness is the focus of my intellectual life” (Koch 2012, 113). It was his intent to explain the dilemma that consciousness presents to scientists in an empirical way that would fall within the boundaries of scientific analysis – that is, that it could be adequately explained within the laboratory.

For Koch this meant that the “endpoint of my quest must be a theory that explains how and why the physical world is capable of generating phenomenal experience” (Koch 2012, 114-115). This dilemma is succinctly summarized by David Chalmers in his coinage of the term the ‘Hard Problem’ (Chalmers 1996, xii). He states the problem in the following manner:

Consciousness. . . is as perplexing as it ever was. It still seems utterly mysterious that the causation of behavior should be accompanied by a subjective inner life. We have good reason to believe that consciousness arises from physical systems such as brains, but we have little idea how it arises, or why it exists at all. How could a physical system such as a brain also be an experience?. . . we are entirely in the dark about how consciousness fits into the natural order. (Chalmers 1996, xi)
With a growing interest over the last three decades in the problem of consciousness various theories have arisen attempting to explain its presence in a physical world. The Emergence Theory has been offered as a possible, even plausible, explanation. Steven Johnson, in his book, *Emergence*, gives the simplest explanation of this event:

...agents residing on one scale start producing behavior that lies one scale above them: ants create colonies; urbanites create neighborhoods; simple pattern-recognition software learns how to recommend new books. The movement from low-level rules to higher-level sophistication is what we call emergence. (Johnson 2001, 18)

The essential element of this theory, according to Christof Koch, is that “an emergent property is expressed by the whole but not necessarily by its individual parts. The system possesses properties that are not manifest in its parts” (Koch 2012, 117).

Koch offers several theories as to the advent of consciousness. This problem is much akin to that which earlier scholars faced when trying to explain the gap between inert and living matter, the *elan vital* of Bergson. Koch contends that the problem of life emerging from non-life has been solved and therefore this new conundrum is also solvable:

We now know that life is an emergent phenomenon and can, ultimately, be reduced to chemistry and physics. No vitalistic force or energy separates the inorganic, dead world from the organic world of the living. (Koch 2012, 118)

The theory of emergence possesses no element of mystical overtones. It is truly a matter of the number, the multitude that makes the difference. Consciousness is not apparent when there are merely a handful of cells present: “It emerges out of large networks of cells” (Koch 2012, 117). Although Koch wrote articles in *Quest* promoting the Emergence Theory, he has since disavowed himself of that contention. The reason that he
has altered his thought is that “Subjectivity is too radically different from anything physical for it to be an emergent phenomenon” (Koch 2012, 119). We cannot get something out of nothing – that is the battle cry of the dilemma. The physical and the phenomenal operate under differing laws and are so radically diverse that one could not emerge from the other. After offering and rejecting several theories, such as Emergence, Koch states:

I believe that consciousness is a fundamental, an elementary, property of living matter. It can’t be derived from anything else; it is a simple substance, in Leibniz’s words. (Koch 2012, 119)

Most scientists agree that Subjectivity, or conscious awareness, is radically different from all that preceded it and there are only a few options available to explain its presence.

1. The intervention of a Higher Being – a God – infusing the mammal with a ‘soul.’ This dualistic solution is not popular today in either scientific or the modern religious communities.

2. Consciousness ‘emerged’ from the complexification of the organism; the new being exhibits capabilities not present in the lower species. This is a popular notion but Koch, and others contend that if it is not present in the lower forms, it cannot arise out of nothing.

3. Our physics is incomplete; consciousness, in a dormant state, may have been present throughout.

It is the intent of this paper to attempt to formulate the beginnings of an appropriate new definition of man, his inherent responsibilities and moral underpinnings. How we relate to the world – the theories of knowledge -- and consciousness, our interactions with the world, are essential to understanding our own being. However, it is not the intent, nor is there the possibility, to resolve the conundrum facing scientists and philosophers today of
the origin of experience. However, it is important to elucidate the most prevalent theories that are being expounded and explored.

Both Christof Koch and David Chalmers separate themselves from the purely reductionist view of most modern day scientists. Chalmers is renowned as a material reductionist but once he began to tackle the ‘Hard Problem’ of consciousness, he was forced to expand his views. He states that “materialism is a beautiful and compelling view of the world, but to account for consciousness, we have to go beyond the resources it provides” (Chalmers 1996, xiv). He contends that “almost everything in the world can be reductively explained; but consciousness may be an exception” (Chalmers 1996, xv). He treads carefully to ensure that he is not harkening back to the Cartesian dichotomy of the *ghost in the machine*. To avoid this pitfall he looks at two distinct concepts of mind: the *phenomenal* and the *psychological*. The problem that we face today, he says, is that the cognitive scientists are dealing almost exclusively with the psychological concept. “This is the concept of mind as the causal or explanatory basis for behavior” (Chalmers 1996, 11). In other words, the scientists are focused on behavior and how that occurs from the firings in the brain. However, this concept of mind does not in any way explain subjective activity. Thus, Chalmers offers a second concept of mind – the *phenomenal* – wherein the mind is characterized by the way it *feels* as opposed to what it *does*. For Chalmers, these are distinct concepts and are not to be conflated. Thus, he does not embrace the traditional concept of dualism, but rather he is proposing a kind of property dualism – two distinct concepts of mind. Chalmers’ thesis reverberated throughout the material reductionist scientific community with his proclamation that this property dualism could involve a fundamentally new feature of the world. The fact that
consciousness does not supervene on the physical features known to science shows us that the physical theory is not quite a theory of everything – the Holy Grail of science. It may be necessary to introduce new fundamental laws and properties into our present Physics. The phenomenal aspect of mind is not reducible – it cannot come from the physical as we know it. Chalmers has taken a middle ground: he has not resorted to God or any mysterious intervention and he has indicated that the phenomenal aspect of the mind must be present throughout evolution although unaccounted for by the physical sciences of today.

*Teilhard de Chardin*

Many scientists have simply ignored consciousness, others have considered it the ‘Hard Problem,’ and still others have theorized that some form of consciousness has been present throughout the evolutionary process. In the mid-twentieth century, Teilhard de Chardin, a Jesuit priest and a paleontologist, expressed the view that the seeds of consciousness were woven into the fabric of evolution and thus there was no gap between the physical and the phenomenal. While most religious leaders of that time were dealing with the threat presented by the Darwinian theories, Teilhard, an evolutionist, was more concerned with the traditional dualism of mind and body. For Teilhard, the gulf between the spiritual and the material had subsided; their waters intermingled in many areas for both are part of the one body. His thesis was that materiality and spirituality, which have habitually been considered only in isolation from each other, actually represent the same reality and are only different manifestations of that one reality. He attempted, some sixty
years ago, to explain this fact long before the advent of cognitive science and the emerging genre of scientists called ‘Embodiment Theorists.’

The theories presented by Teilhard are dismissed and dubbed ‘mysterian’ by Dennett, but others see him as a precursor of the second generation of cognitive scientists. Teilhard states that the one creative act was sufficient and that there is no need for any special intervention or interference once the evolutionary process began. It is Teilhard’s view of consciousness and his definition of man that is of import to this paper. For him, matter is no longer viewed in terms of geometry and fixity – as a static nature – but under the more encompassing lights of evolution and duration.

Ainsi parle la Science. Et je crois a la Science. Mais la Science s’est-elle jamais donne la peine jusqu’ici de regarder le Monde autrement que par le Dehors des choses. (Teilhard 1955, 49-50)

His thought is that Science has only dealt with the exterior of things, the ‘Without,’ and Teilhard puts forth one of his most controversial principles: the ‘Within’ of things – Le Dedans des Choses. He states this simply as: “Coextensive with their Without, there is a Within to things” (Teilhard 1959, 56). This concept effects a radical change in the subject matter of science itself, for his premise is that since there is double aspect – mind and body – present today, a double aspect to its structure need exist in every region of space and time. In other words, the Within does not manifest itself suddenly with the birth of man, but develops along the same tedious path as matter. The constituents of consciousness are virtually homogeneous among themselves in the beginning, as is matter, and eventually complicate and differentiate their kind with the passage of time. Thus, a different explanation of the presence of consciousness is offered that it is not a ‘deus ex machina’ but rather one that existed in germinal form from the beginning.
Thus, for Teilhard, the two aspects, the Within and the Without, develop simultaneously and the more organized structure will correspond to the more developed consciousness. This inner aspect, the Within, is at first clouded and concealed under the mass of chaotic matter but with the emergence of more complicated and organized matter, consciousness is able to manifest itself. Thus it is seen that the Within/Without, Complexity/Consciousness groupings are two expressions of the same thing. As complexity or the Without of a being increases, it is then able to withstand the emergence of consciousness.

Teilhard was not without critics – indeed, they were numerous. This concept of the Within/Without, Complexity/Consciousness caused considerable repercussions not only in religious communities but in scientific and philosophical circles. His broad definition of consciousness was the source of much disagreement.

. . . term ‘consciousness’ is taken in its widest sense to indicate every kind of psychism, from the most rudimentary forms of interior perception imaginable to the human phenomenon of reflective thought. (Teilhard 1995, 57)

Teilhard has offered one possible thesis to explain the evolutionary process that has culminated in the human being. In some mysterious way, we have moved from the wonders of animals roaming the planet, to the expressive ‘cave drawings’ at Lascaux some 17,000 years ago, to Neil Armstrong standing on the surface of the moon proclaiming: “That is one small step for a man, one giant step for mankind.” What will the next ‘giant step’ for mankind entail? We know not.

Although many have dismissed Teilhard as ‘simply a visionary,’ it is quite possible that his vision has some merits. He was able to raise the questions that confront today’s leading scientists, such as how one can reconcile the seemingly disparate aspects
of the physical and the non-physical. Teilhard tried to avoid succumbing to dualism by stating that all was present, in some embryonic form, at the beginning.

The appearance of man on the evolutionary scale is stated simply as: “Man came silently into the world” (Teilhard 1995, 183). Mark Turner and Giles Fauconnier, present day cognitive scientists, express the import of this event thusly:

Fifty thousand years ago . . . our ancestors began the most spectacular advance in human history. Before that age, human beings were a negligible group of large mammals. After, the human mind was able to take over the world. What happened? (Fauconnier 2002, v)

Morphologically, the leap from the highly developed mammal of the Pliocene age to the birth of man was not great, yet it caused an upheaval hitherto unexperienced by the world. Evolution, as personified in man, has turned back upon itself and for the first time has been aware of the process it is undergoing. According to Teilhard, we are now conscious of the very movement that is carrying us along. Thought is born.

Teilhard de Chardin has been severely criticized, justly and unjustly, for many of his ideas. However, his concept of complexity/consciousness is in line with much of the scientific thought of today. Obviously, there is much dissention about his panpsychism – the ‘within’ of all things. This within/without has a similarity to Chalmers view of the dual aspect of the mind as phenomenal – the interior – and psychological – the complexity of the brain structure.

However Teilhard did put forth another idea which is being considered seriously today, some sixty years after his first introduction: the Noosphere. For Teilhard, the last great phenomenon that we encountered in the world was psychogenesis – the birth of thought. As he saw it, today we are witnessing a new more formidable birth: the convergence of thought. (Teilhard 1959, 181) By means of a convergence of thought, an
inter-penetration of consciousness, a ‘thinking layer’ will cover the earth. The essence of this phenomenon is found in the fact that “. . . each element sees, feels, desires and suffers for itself the same things as all the others at the same time” (Teilhard 1959, 251). Teilhard is offering a vision of the next level of evolution, an evolution that is no longer focused on the external, his Without, but rather on the Within – conscious thought.

This concept of the Noosphere is not rejected by all scientists as simply a fantastical rambling but rather it is, once again, in the second decade of this century, being referenced as one possibility of what we are experiencing today. Koch, in his 2012 book, Consciousness, puts Teilhard’s idea – and others – into a context that is worthy of note:

The cosmos is a strange place, and we still know little about it. It was only two decades ago that scientists discovered that a mere 4 percent of the mass-energy of the universe is the sort of material out of which stars, planets, trees, you, and I are fashioned. One-quarter is cold dark matter, and the rest is something bizarre called dark energy. Cosmologists have no idea what dark energy is or what laws it obeys. Is there some ephemeral connection between this spooky stuff and consciousness. . . Most unlikely, but still. . . . Our knowledge is but a fire lighting up the vast darkness around us, flickering in the wind. So, let us be open to alternative, rational explanations in the quest for sources of consciousness. (Koch 2012, 135)

Since we know so little of the universe – only 4 percent – it behooves us to stretch our minds and our imagination in the attempt to open up areas of new studies. Koch himself is interested in the integrated information theory of Guilio Tononi, which “specifies the way in which the consciousness of a bee differs from that of a big-brained bipedal . . .” Teilhard’s vision is somewhat compatible with this integrated information theory but the theory is still in its infancy. The point that Koch makes though is that if the theory is proven to be wrong, “it will be wrong in interesting ways that illuminate the problem” (Koch 2012, 134).
Teilhard’s image of a layer of thought enveloping the earth is one that is taking hold among some evolutionary biologists and environmental scientists today. On the December 21st, 2012 broadcast of Krista Tippett’s On Being, she brought together three noted authors to discuss the works and influence of Teilhard de Chardin: Ursula King, Andrew Revkin and David Sloan Wilson.

Wilson stated “we are now entering the Noosphere.” Wilson, an evolutionary biologist, agrees that in one sense we are just one more species on a long trajectory, but our capacity for symbolic thought is a completely new evolutionary process. For Refkin, a science and environmental writer, we are ‘growing the noosphere.’ Our brains and our thoughts are evolving. Refkin is interested in the development of the brain and indicates that what we observe in the growth of our individual brains today may replicate the stages that of hominoid development. He cites the article by David Dobbs in the October 2011 issue of the National Geographic Magazine, “Teenage Brains” to show that our brains do not simply grow larger. The full growth of the brain is attained at a fairly young age but “as we move through adolescence, the brain undergoes extensive remodeling, resembling a network and wiring upgrade.” Thus, what is occurring on an individual level is now, in the formation of the ‘Noosphere,’ occurring on a global scale. It is the re-wiring, the re-modeling, that is of import. But, it is not just the confluence of brains that is producing this new level, but the fact that the universe, the brain and the Internet grow together. We are not dealing with an individual mind, but with a planetary mind – a Noosphere. Refkin, the scientist interested in climate change, is aware that in order to deal with the problems facing us today we are going to need to a unitary focus. He is not insisting that we all think alike but rather that we find comfort with our
differences. The questions become: Where can we connect? Where can we work together? Despite all of our differing characteristics, where is it that we can intersect? It is within the integrated, over-lapping circles, Venn’s sets, that we will find the intensity and the power necessary to deal with the problems we face. Refkin, like Teilhard, feels that there is a drive toward coherence.

Koch states that if there ever was a “patron saint of the Internet, it should be Teilhard de Chardin” (Koch 2012, 133). The scientists on Krista Tippetts show voiced the same thought. The mystery of the Internet and its power to encircle the globe instantaneous is most probably the single most powerful symbol we have of the unity and inter-penetration of thought today. When Teilhard was writing in the early 1950’s, the Internet was unknown. It was only in the 1960’s and 1970’s that research expanded into packet switching and eventually into the development of protocols which allowed for various separate networks to interface one with the other. We are all aware of the computers of that era, whose components filled a room. Today, we can communicate across the globe and not only speak but also experience the person via our phones with Skype or Face-Time. We are ‘plugged-in’ – to the point that some consider it detrimental to the quiet and reflective time experienced by prior generations.

However, the fact remains that we no longer are isolated creatures. Where we stand today in our development as the human race is that those on the leading edge of science, theology and philosophy no longer see us as encased within our own skin but rather as an integral part of a living organism.

The thesis of this paper is based on the fact that our definition and view of the human being must be transformed to keep abreast of the scientific and laboratory
discoveries. The following chapters will concentrate on the new generation, the so-called second generation, of cognitive scientists and the theories they offer of the nature of man. These theories will stand in contrast not only to their professional predecessors but also in contrast, and at times in conflict with most of Western Philosophy as we have known it.
In the last quarter of the twentieth century a major schism began in the scientific world. The first generation of cognitive scientists had discovered much about the workings of the brain and their findings were altering the way that we conceived of the human being itself. No longer was man the autonomous, free, rational and moral being depicted in Western Philosophy. Rather he was deemed to be pre-determined and predictable due solely to the neural firings in his brain. It was the brain that had become the object of scientific study and the contention was that eventually, by means of the complete mapping of this organ, we could know all that needed to be known of the being we call ‘man.’ The scientific method used in testing and in the laboratory reigned supreme and all other sciences, including the social sciences, ceded to following these dictates in order to achieve an element of certitude and validity within the community. It was within this cold, dispassionate, antiseptic atmosphere that cracks began to appear. A second generation of cognitive scientists began to question some of the very basic tenets of their contemporaries’ work.

A Thomas Kuhn scenario began to unfold. In his book of 1962, *The Structure of Scientific Revolutions*, Kuhn struck a severe blow to many accepted tenets of the physical sciences. He challenged the Enlightenment view that science makes genuine progress possible because it establishes an unchanging context and backdrop that is not influenced
by individuals. Kuhn argued against the accepted view that there was a step-by-step
logical progression in the laboratory leading to a full understanding of the outside
objective world. Kuhn recognized that over time certain cracks begin to appear in an
accepted paradigm, such as Objectivism – the paradigm of the first generation of
cognitive scientists, and when the disparities became too great to be contained within the
accepted paradigm, there ensues a complete revolution – a paradigm shift. This is the
narrative of the second generation of cognitive scientists – the recognition of disparities
and the forging of a new distinct paradigm. Kuhn stated that we must now see science
against a horizon “which is historical and cultural rather than seeing science as a stable
and neutral profile which remains unchanging” (Ambrosio, 2009). As we look into the
early works of this second generation, the emergence of the new paradigm is paramount.
It will become obvious how this new approach is incommensurable with the Objective
Analytic philosophies of the first generation and the precepts of Western Philosophy.

The dawn of a new theory begins. A new vision of man is emerging. What
exactly is this new theory that countermands the existing paradigm? The authors speak
not with one voice, although there is some basic coherence. A variety of names have
been attached to the new theories, which Julian Kiverstein refers to as the 4EA:
“Embodied, Embedded, Extended, Enacted, Affective” (Kiverstein 2012, 2). But
Kiverstein offers two main distinctions that exist within the new paradigm: body
functionalism and body enactivism. What had bothered this new generation of scientists
is the conflation of the mind with the brain. In their own testing within cognitive science,
this new breed was discovering that the brain alone could not account for cognition. It
was deemed impossible that man could be reduced to mere computation and that our
feelings, thoughts, desires, wills, could be represented symbolically in computer software. More was involved in our interaction with the world. The one common denominator in all variations of the new theory is that not only the brain but, the body and the world itself play an integral part. The questions that now arose, according to Kiverstein, dealt with the role and prominence of each of these interacting elements.

Those who promulgate the theory of body functionalism understand the body as merely “playing a role in implementing the computational machinery that underpins our cognitive capacities” (Kiverstein 2012, 1). In this theory, a minimal nod is given to the role of the body but the thrust remains on the computational workings of the brain. The more radical view, and the one to be treated in this paper is what Kiverstein calls body-enactivism which he states:

. . . entirely eschews the computational theory of cognition on account of its alleged failure to explain how representations can provide an agent with commonsense knowledge of the world. . . the body is understood as the source of meaning. . . Body-enactivism . . . is concerned with articulating the ways in which the body can enact or make a situation meaningful to an agent. (Kiverstein 2012, 2)

Andy Clark, according to Kiverstein, offers a compromise between these two theories. He agrees that minds may be embodied but they still “depend crucially on brains which compute and represent” (Kiverstein 2012, 3). Clark will not abandon the computational theory of mind but he does recognize the role, albeit secondary, of the body.

It was in 1991 that Francisco Varela, Evan Thompson and Eleanor Rosch launched their attack on the theory of the computational mind with the publishing of their book, The Embodied Mind. Although the book was dismissed by many scientists at the time, including Dennett, and did not have the revolutionary effect they had predicted, it
remains one of the cornerstones of the movement. In this work they stress two main points to clarify what is meant by embodied action:

first, that cognition depends upon the kinds of experience that come from having a body with various sensorimotor capacities, and second, that these individual sensorimotor capacities are themselves embedded in a more encompassing biological, psychological, and cultural context. (Varela 1999, 173)

It was less than a decade later in 1999 that Mark Johnson and George Lakoff published their work, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. They state very clearly that the view that the mind is disembodied is patently false. Their claim, far removed from the simple *body functionalism*, is in line with the more radical *body-enactivism*:

The claim that the mind is embodied is . . . far more than the simple-minded claim that the body is needed if we are to think. Advocates of the disembodied mind position agree with *that*. Our claim is, rather, that the very properties of concepts are created as a result of the way the brain and body are structured and the way they function in interpersonal relations and in the physical world. (Lakoff 1999, 37)

It is the central thesis of this paper that embodied realism offers the most comprehensive view of man, a view that demands a new definition of being and that most completely encompasses the events we are experiencing in our contemporary world. It is the contention of this paper that this view represents most fully the culmination of the evolutionary process as we experience it today.

*Mark Johnson and George Lakoff*

Embodied realism relies on the fact that we are coupled to the world through our embodied interactions. (Lakoff 1999, 93).
The differences between the first and the second generation of neuroscientists can be elucidated through the works of Mark Johnson, a philosopher, and George Lakoff, a cognitive scientist and linguist, who began their collaborative work in 1979. They came together, not with the intention of disrupting the existing order in the physical sciences, but due to their shared concern “with how people understand their language and their experience” (Lakoff 2003, ix). The topic that originally linked these two men was their mutual interest in metaphor, which at that time was considered peripheral in both the field of philosophy and linguistics. In the Objectivist world, metaphor was thoroughly dismissed since the correspondence theory of subject and object was the norm. In contrast to this diminished or dismissive view of metaphor, Lakoff and Johnson intuited that it should be “a matter of central concern, perhaps the key to giving an adequate account of understanding” (Lakoff 2003, ix). The importance of the role of metaphor that they had each encountered in their separate research was to be the cornerstone of their combined work. Their vision was focused on “the key insight that our conceptual frameworks and ways of thinking are structured by metaphors” (Peterson 1998, 371).

However, very early into their combined research that they began to question, not only what they considered the erroneous diminishment of metaphor, but also some of the very basic assumptions that were tenets of the Western tradition. In fact, the most basic assumption of Western philosophy came into question – objective truth.

A cornerstone of Analytic Philosophy is that an object exists ‘out there’ in the world, a world that is independent and autonomous. The scientist, using the established method, sets out to discover the truth of this independent objective world. Thus it is objective truth, this essential tenet of the philosophy and of the physical sciences that
these two men began to question. Through their own research and laboratory work, they came to the unsettling conclusion as follows:

We do not believe that there is such a thing as *objective* (absolute and unconditional) *truth*, though it has been a long-standing theme in Western culture that there is. We do believe that there are *truths* but think that the idea of truth need not be tied to the objectivist view. (Lakoff 2003, 159)

This was a major attack not only on philosophy but on the scientific world, of which Lakoff and Johnson were members. The idea of absolute, independent truth is the essence of the Objectivist theory that is espoused by analytic philosophers and that remains the basis of most scientific thought. Michael Krausz emphasizes the fact that in the world of absolutism, “a reality, as such, must exist independent of all reference frames” (Krausz 2013, 18). This interpretation completely severs or separates the viewer from the object or from the facts. We then, are non-interfering spectators of the event; we bring nothing to the table. Our seeing, our participation must be as sterile and as antiseptic as the proverbial operating room. All can be discovered if the scientist persists in the endeavor. It is only a matter of time. There is no mystery involved here, only unknowing.

According to Richard Bernstein:

“Objectivism” has frequently been used to designate metaphysical realism – the claim that there is a world of objective reality that exists independently of us and that has a determinate nature or essence that we can know. (Bernstein 1983, 9)

The scientific method is used to ensure that there is no human involvement or tainting of the process, so that unadulterated Truth can be discovered within the laboratory.

The two scientists, by testing and evaluating the use of metaphor in our everyday lives and understanding, came to the conclusion that this view of separateness and non-involvement could not be valid. Lakoff and Johnson are now faced with the task of
defining and defending their stand against the claims of Western philosophy, which differ so from their own clinical findings.

In their book, *Philosophy in the Flesh*, Johnson and Lakoff formulate a list nine claims that are attributable to mainstream Western philosophy, which they argue are “so false as to drastically distort our understanding of what human beings are . . . and what our place is in the universe” (Lakoff 1999, 21). Three of these claims are cited by Johnson and Lakoff as the linchpin of the traditional Western structure such that if any of these tenets can be proven to be false, the “whole world-view collapses” (Lakoff 1999, 22). The following three tenets are those they contend have been proven false through their own work in the cognitive science laboratory:

1. The structure of human reason is defined by transcendent reason, independent of human bodies or brains, and thus the structure of human reason is disembodied;

2. Human concepts are the concepts of transcendent reason. They are defined independent of human brains or bodies, and are disembodied.

3. Human concepts characterize the objective categories of mind-, brain-, and body-free reality. The world has a unique, fixed category structure, which we can know when we reason correctly. (Lakoff 1999, 21)

It is these three tenets that Lakoff and Johnson address in their work. The third statement points to a world that has a “unique, fixed category structure” which we can know. The first two tenets deal with man and how he relates to this independent world: the structure of our reason and the formation of concepts.

The claims of Western philosophy were developed over the last two thousand years from a purely *a priori* philosophical methodology. Until the last fifty years there really was no way to test these premises. However, with the advent of modern science and more particularly with the recent development of cognitive science, much of this
The premise of the argument of this new band of scientists can be summarized as follows: “Either human concepts and reason are shaped by the mind, body and reality – or – human concepts and reason are “mind-, brain-, and body-free and characterize objective, external reality” (Lakoff 1999, 22). It becomes obvious from this either/or statement that if one can determine that we reason and form concepts, not in a transcendent manner, but by means of the mind, body and the world, then the world itself cannot be independent and objective. Thus, the task for Lakoff and Johnson is to ‘prove’ that our concepts and our cognitive ability are not separate and transcendent but rather are grounded in our evolutionary, physical being.

Other scientists also reduce our Western tradition to two basic assumptions: 1) the existence of an objective, external reality and 2) a transcendent mind. For instance, Varela, Thompson and Rosch in their book, The Embodied Mind, published in 1991, offer a summary of objectivism similar to that of Lakoff and Johnson:

1. the World is pregiven;
2. our cognition is of this World – even if only to a partial extent, and
3. the way in which we cognize this pregiven World is to represent its features and then act on the basis of these representations. (Varela 2000, 135).

This is the formula that has persisted through the ages and for some very good reasons. To put the thesis in simplistic terms, there is a World ‘out-there’ that exists independently of our awareness or participation. In order to attain Truth, our cognition must be put in sync with this pre-existing reality. Having been raised within the Western tradition, this makes sense to us. We see ourselves as completely separate entities, alienated from the World and others, attempting to ‘reach out’ and to relate to both. The second generation
cognitive scientists question the validity of both the independent external world and the transcendent mind.

There have been many theories of the Mind, but the prominent one with which Mark Johnson takes issue is what he refers to as the traditional ‘Folk Theory of Faculty Psychology.’ Within this theory, the mental realm contains four faculties: “Perception, passion, will, reason” (Johnson 1997, 15). Each of these faculties is seen as independent and plays a significant role within the individual. Perception receives impressions from the outside world and delivers these impressions either to reason or the passions. The passions are aroused either by memory or by new sense perception data. It is Reason that analyzes the data and passes this information on to the Will, which can freely choose to act either according to the information of Reason or it can choose to succumb to the desires of the Passions. Thus, within these separate faculties, there is continuous conflict between the reason and the passions. The Will tries, successfully or unsuccessfully, to overcome the dictates of the passions. This war-like battle for dominance of the ‘strong will’ is how most westerners experience themselves. We speak of these faculties as separate existing entities and equate them with the human struggle. A ‘strong willed person’ is one who does not give into the enticement of the passions. ‘He has a will of iron’ is a statement reserved for one who listens only to the dictates of the faculty of Reason. Thus, over the centuries we have personified these faculties. We are not only separated from the world, but we ourselves are composed of separate faculties that ebb and flow and battle continually. We and our world exist independently. We must struggle to bring our own being into harmony and we must struggle to relate and be in harmony with the outside world. Our experience is of a constant battle to control our
own being and to cross the threshold to the Truth of the exterior, independent and separate world.

The history of cognitive science is quite short, some fifty or sixty years, and it must be noted that these early cognitive scientists contributed much to the body of knowledge as they were able to test and explore the workings of the brain itself. This was the first time that scientists had access to the brain’s neural firings and the scientists were able to begin to map the brain as it reacted to stimuli. They no longer needed to rely on *a priori* thought but could access first hand that which they were studying. They could see that the brain reacted constantly to stimuli and they could image the sections of the brain that were aroused by particular stimuli. They did not see that anything else, any other organ was involved in this process and their ultimate conclusion was that the brain operates and carries out all of its functions in isolation from everything else. Both the brain and the newly developed computer processed information and eventually the brain became synonymous with the mechanistic processor – the computer. Symbolic representations, which contained no meanings, were fed into the computer. In like manner, it was deemed that the firings in the brain, a material organ, contained no inherent meaning, but simply reacted in a prescribed manner to the stimuli presented. It is within this atmosphere – the era of the mind as a computer -- that the new generation of cognitive scientists began to question the basic tenets of the existing philosophy and the interpretation of the scientific findings of their contemporaries.

The touchstone of any theory of body enactivism is that the mind is embodied. Mark Johnson and George Lakoff have offered the most comprehensive explanation of the theory of embodiment, such that they refer to their own theory as *embodied realism.*
If Johnson and Lakoff can establish that the mind is embodied, the question of the objective world is moot. If we are grounding all our thoughts and concepts in the body and the world, it is obvious that the world in which we live can no longer be seen as objective and independent nor can it have a unique, fixed category structure. Lakoff and Johnson have separated themselves, not only from the first generation of cognitive scientists but also from the second generation scientists who embrace body functionalism. According to J. Kiverstein, the challenge to the philosophers of embodiment is “to show that body and world can be genuine parts of cognitive processes, and not just channels for inputs and instruments for producing outputs” (Kiverstein 2012, 743). This then is the work that is before these scientists and Lakoff and Johnson begin Philosophy of the Flesh by citing three major findings of cognitive science, which they claim refute Objectivism and demonstrate that the world and the body are ‘genuine parts of the cognitive process.’

The mind is inherently embodied.
Thought is mostly unconscious.
Abstract concepts are largely metaphorical. (Lakoff 1999, 3)

These three statements, if proven, refute the three main tenets of Objectivism stated above that 1) the mind is transcendent; 2) concepts are transcendent and 3) the world has an independent, fixed category structure. Lakoff and Johnson discuss each one of these tenets in detail, as the three statements taken together offer the framework of their embodied theory.

The Mind is Inherently Embodied

By refuting the basic claims of Objectivism, Lakoff and Johnson are substantially re-defining who we are. They state emphatically that we are not dualistic beings -- we
are not a body and a separate, disembodied mind nor are we a ‘subject’ experiencing an ‘object’ of the world. They explain the classical dilemma as follows:

The problem with classical disembodied scientific realism is that it takes two intertwined and inseparable dimensions of all experience – the awareness of the experiencing organism and the stable entities and structures it encounters – and erects them as separate and distinct entities called subjects and objects. (Lakoff 1999, 93)

In order to comprehend what exactly is meant by ‘embodiment,’ our understanding of reason, of mind, must undergo radical changes. The authors are not simply saying that we need a body in order for the mind to function. There is no argument in scientific circles that the physical brain is the vehicle through which the mind operates. We are all aware that if a part of the brain is damaged, the reasoning process can be affected. Thus, attribution to that particular role of the brain is not in dispute. However, the authors are claiming more than that, such as:

. . . the striking claim that the very structure of reason itself comes from the details of our embodiment. The same neural and cognitive mechanisms that allow us to perceive and move around also create our conceptual systems and modes of reason. Thus, to understand reason we must understand the details of our visual system, our motor system, and the general mechanisms of neural binding. (Lakoff 1999, 4)

Here, they are emphasizing the fact that it is not only the brain that is involved in cognition, but that the same neural systems that are used for vision and for movement are also involved in cognition. Reason is not disembodied; it is not separate. Rather it is an integral aspect of our physical systems.

In the traditional Western philosophy, it is man’s rationality that separates him from the animal kingdom. Man has long been referred to as a ‘rational animal.’ The subtle implication within this definition is the duality of man. What is also implicit in
this definition is that this ability to reason separates man from all other animals, for his definition alone contains the word ‘rational.’ This function is not found in other species therefore, the claim has been that it ‘suddenly’ appeared with *homo sapiens*. But, according to Embodied Realists, reason itself is evolutionary (Lakoff 1999, 4). Harkening back to the dependency of reason on the visual and motor systems, the authors rely on the evolutionary development of these same systems. Reasoning is a continuum of the evolutionary line. Reason does not separate us from the animal kingdom, but rather it solidifies our relationship and developmental dependency on all that preceded us. We, the human race, are the culmination of all that came before – at least up to the present time. It has taken billions of years, incalculable experiments, a multitude of dead-ends, to bring us to where we are today. Reason is the present day culmination of the intricate physical systems that we are and that preceded our arrival. Reason cannot be conceived of as being separate, for it emerges from the neural intricacies and webs of our evolutionary systems.

These statements regarding the nature of the mind and of reason drastically alter our views of what it means to be human. In the Western tradition, reason was seen as an autonomous faculty, separated from the motor, visual and emotive systems of the body. Today, the Embodied Theory, situated within a larger evolutionary paradigm, states that the ability to reason grows out of these very systems. In the chapter, “The Embodied Mind” in Lakoff and Johnson’s work, *Philosophy in the Flesh*, they outline what the cognitive scientists have discovered that supports the view of this emergence of reason by means of the neural systems.
The authors are attempting to clarify who we truly are as human beings. We have been defined throughout the ages by philosophical and theological theories. Now, the cognitive scientists are testing premises and theories to validate how it is that we perceive, think and act. It is from these results that a new picture of who we are is emerging. Lakoff and Johnson present these findings concerning the neural systems and what we know about them.

Their basic claim that the mind is embodied is based on their clinical findings that our concepts are formed due to the structure of the brain and the body, not due to a representation of an independent objective world.

The embodied-mind hypothesis therefore radically undercuts the perception/conception distinction. In an embodied mind, it is conceivable that the same neural system engaged in perception...plays a central role in conception. (Lakoff 1999, 38)

It is these neural systems that allow us to make sense of our experience. What Lakoff and Johnson are stressing in the above quote is that, unlike the tenets of Faculty Psychology, perception and cognition are not separate faculties. As Steven Fesmire succinctly defines embodiment in their work: “The body is in the mind. That is, conceptual structures ride piggyback on and evolved from basic sensory and motor systems” (Fesmire 2000, 301).

It is necessary for the human being to make sense of all the data that comes to him through the senses in order to navigate the world. According to these scientists, the most basic activity of any living being is the ability to categorize. Since we are evolutionary beings that process can be traced back to the simplest form of life, the amoeba, that has the ability to categorize – food vs. non-food –a categorizational process essential to its survival. This ability is not a consequence of a reasoned process nor is it a process of
abstraction, but rather we categorize “because we have the brains and bodies we have and because we interact in the world the way we do” (Lakoff 1999, 18).

Most of our categories are formed automatically, unconsciously, without any awareness of interference. To elucidate this, many authors besides Lakoff and Johnson (Varela, Rosch and Thompson e.g.) use the visual neural system as an example. While the human eye has 100 million light-sensing cells, only 1 million fibers lead to the brain. Thus, the image we receive is reduced by a factor of 100. “Information in each fiber constitutes a “categorization” of the information from about 100 cells” (Lakoff 1999, 18). This is the most basic aspect of our learning. We do not abstract an essence at this physical level rather we group information together into a packet which can be transmitted to the brain. Thus, we see a category such as trees, cars, planes and not just an individual object separated from other individual objects. Most of our functioning in the world relies on this basic unconscious and automatic categorizing. What is of import here is that “it is not just that our bodies and brains determine that we will categorize; they also determine what kinds of categories we will have and what their structure will be” (Lakoff 1999, 18). Our world is limited to our experience! We may experience new and varied categories as we grow and develop, but our underlying experience of the world is determined by these early categories. They are embedded in our experience. Our bodies and its properties of hearing, sight, taste, touch determine the boundaries of what we know, what we experience. This is our evolutionary inheritance, for this is how our ancestors grappled and survived in their world. What else is ‘out there’ we do not know, nor is it a question with which we can engage. We have learned to navigate in our world, to see what is at hand that can be used for nourishment, to hear danger
approaching. We, and our ancestors, have survived and we have done so through our categorizations and our experience. Yes, we human beings cannot only categorize, we can also conceptualize and both of these abilities are determined by our bodies.

It is based on our inherited ability to categorize that the human being has been able to move on to conceptualization. What exactly is the meaning of moving from categorization to conceptualization? It is not the disembodied transcendent ability we once thought; rather, it is an embodied ability. What do the cognitive scientists tell us of cognition within this new paradigm? Cognition must be looked at now within this new framework, as ‘evolving,’ as ‘emerging’ from all that has come before.

What we call concepts are neural structures that allow us to mentally characterize our categories and reason about them. Human categories are typically conceptualized in more than one way, in terms of what are called prototypes. (Lakoff 1999, 19)

The mystery and the majesty of the human person is that we are not just limited to the categorization that has enabled our survival. The ability to form concepts is the ability to imagine the categories of our experience in more than one way, in a way that differs from and expands on the original input that formed the category in the first place. No other animal can make the statement: “If pigs could fly…” but the human being can take categories and place them in unending scenarios. The point that Lakoff and Johnson are making at this juncture in their theory development is that all of this has a neural component. “An embodied concept is a neural structure that is actually part of, or makes use of, the sensorimotor system of our brains” (Lakoff 1999, 20). The consequences of this statement are great. Lakoff and Johnson have completely separated themselves from the popular faculty psychology, which declares the separation of perception, a physical ability, and conception, a mental ability. We are one; we have
evolved; we continue to evolve. We are not divided into parts, the mental and the physical. We are embodied. At each stage of presenting the theory of embodiment, it is necessary to impress and iterate the basic distinction between this theory and the traditional Western philosophy. That is because we have grown up with that historical Theory and it is ‘embedded’ in our thinking. To see ourselves as the continuum of the evolutionary process places us within a completely new and distinct paradigm, with all the interconnections and interactions that it entails. We are not who we thought we were. Science is giving us data that enables us to look at our own being and our experiences in a whole new light.

It is apparent from the above treatment of categories and concepts that the ‘world’ is not the objective, separate entity of yore. The world is our world, an integral aspect of who we are and how we operate. The Kantian question of the noumena is irrelevant within this world-view. We are not interested in the ‘thing-in-itself’ but only in the ‘thing’ as it has been configured by our senses. We are only interested in the ‘thing’ as we interact with it in the world that we know. What is the world in itself? We have no idea, nor do we have any means, or any need of discovering it. We have evolved and we have on the one hand, adapted to the world, and on the other hand, we have ‘created’ our world.

The goal of our Western tradition was to attain Truth, which was the synchronization of our minds with an independent exterior reality. That is no longer the case. If there is not an external, objective reality and if our concepts are not independent of our bodies, then the traditional theory of Objectivism collapses. No longer are we attempting to learn the nature of the outside world, for the world is our world, the world
we experience and that informs our being. We can only know what our own being can experience; that is the parameter within which we exist; that is our world. Our concepts are not just a reflection of an exterior world, not a correspondence with an outside world.

One of the greatest obstacles to a general acknowledgment of the embodiment of mind, meaning, and thought is the persistence … of the representational theory of mind. … (which) claims that the “mind” operates on “internal representations” (ideas, concepts, images) that can re-present … external objects and events. … The representational theory had its source in dualistic metaphysical views that mind is separate from and different in kind from body. (Johnson 2007, 112)

Our concepts are formed by who we are, by the construction of our brains and our bodies and they stem from our neural, sensorimotor systems. That is the world we inhabit; that is world in which we, and our ancestors have evolved. There is nothing abstract about this; it is experiential. This is how we must view ourselves and it is within this framework that we must see our own mystery and majesty enhanced by our actions.

In order to clarify the claim that our concepts are not just reflections of an external world but that they are shaped by our bodies and our brains, Lakoff and Johnson look at three different kinds of concepts: color concepts, basic-level concepts and spatial-relations concepts.

Color is everywhere; it is an integral part of the world as we know it. We love the first blush of spring when the green leaves appear once again and the full color spectrum decorates the fields and flowers as they begin to bloom. We thrill to the blue skies and crystal clear ocean of the Caribbean, the dense greens and browns of the rain forests and the muted dusty shades of our deserts. We spend a significant amount of time color coordinating our own wardrobes, our homes, our offices. We are excited by the ‘Painted Ladies’ that educe each architectural detail of Victorian homes. A visit to the local paint
store will greet us with a selection of hundreds of paint chips. We respond emotionally to colors and determine which colors suit certain events: a white wedding dress, a black mourning coat. Some colors warn us of danger, of caution. Every child knows the mother’s chiding to “eat your greens!” Book jackets and product packaging are strategically colored to attract us to them. We celebrate Easter with white lilies, tied with yellow and purple ribbon; Christmas time is the season of red and green and in our country patriotism is paraded with red, white and blue. We begin our own lives swaddled either in pink or blue. But, what is the source of this color that is such an integral part of our lives? It is our assumption that it is in the thing itself: ‘the sky is blue, the grass is green.’ But, science tells us otherwise. There is no color in the thing itself; there is only color in our world.

Harkening back to the dictates of the Objectivist model, it is our task to align our beings with a pre-given world in order to attain truth. However, the scientists are now telling us that the world we see is somehow dependent or inter-dependent on us. Intuitively we see the world as ‘out there,’ separate and independent. Occasionally, in our own lives an event strikes against the tenets of that paradigm and for a moment we glimpse that the world is not completely separate from us. We garner the fact that the world is not pre-given; something else is at play.

On a dive trip off Tortola in the Caribbean Ocean, a group of three elderly women joined scuba divers for an afternoon. They came on the boat each carrying four small glass vials with stoppers and proudly declared their intent to get samples of the surrounding distinct brilliant blue and green waters and even a vial of the dull grey water to bring home. There was a moment of silence among the divers as each recognized the
fruitlessness of their endeavor. As the divers sat in their boat they could see that the water around them was indeed of various hues and colors. But, intuitively they knew that the color was not in the water. They could not verbalize the elements involved – the cones, the brain, and the reflective property of the sea – but they knew that when the vials were filled by the enthusiastic ladies they would all look alike. What then is the source of the color in which we are immersed?

Lakoff and Johnson answer this question in the following manner:

Color concepts are “interactional”; they arise from the interactions of our bodies, our brains, the reflective properties of objects, and electromagnetic radiation. Colors are not objective; there is in the grass or the sky no greenness or blueness independent of retinas, color cones, neural circuitry, and brains. Nor are colors purely subjective; they are neither a figment of our imaginations nor spontaneous creations of our brains. (Lakoff 1999, 25)

Thus, color is seen as interactive: it involves both our world and our own make-up, our biology. Color, like everything else we experience, cannot be taken in isolation. It cannot be ‘abstracted’ from a pre-existing autonomous object. It is the interaction, the inter-depen-dency that is necessary: our brains, our bodies, our world. These findings strike a serious blow at the Objectivist’s theories.

The correspondence theory has strong tentacles in the philosophical world but, seeing color as interactive “means abandoning the correspondence theory of truth, the idea that truth lies in the relationship between words and the metaphysically and objectively real world external to any perceiver” (Lakoff 1999, 26). For human beings today, we can only approach the concept of Truth from an embodied perspective. There is no other valid perspective.
The correspondence theory, an integral element of Analytic philosophy, loses all validity when perception is considered as an action as opposed to simply a receptor. Both Alva Noe and Shaun Gallagher stress this point. According to Gallagher, “Perceptual experience is not determined simply by neuronal states that are activated by sensory input” (Gallagher 2008, 99). Vision is much more than that . . . “it’s the action of the organism as a whole, exploring the environment” (Gallagher 2008, 99). There is no need to ‘create an internal representation.’ In the embodiment theory, we are in-the-world and thus we experience the object directly and hence there is no need of a copy of the original. Perception is an activity. As Alva Noe states it: “the world makes itself available to the perceiver through physical movement and interaction. . . What we perceive is determined by what we do” (Noe 2004, 1). In order for one to perceive an object, the eyes are not the only body part involved. One must move into position to get a clear view, move the head, shield the sunlight etc. It takes the working of the entire body to interact and this is much more meaningful to us than merely a representation of an object in the brain. In the embodiment and enactive theories, man and the world come alive!

Lakoff and Johnson have shown that our color concepts, so integral to our interpretation of our world, separate us from the correspondence theory that is inherent in Western philosophy. Our concepts of color do not correspond to what is “outside” in a separate world, but are dependent on our neural systems, the brain and the world. As the work of this second generation of cognitive scientists develops an in-depth empirical study of the workings of the mind, it begins to become apparent that our consideration of our practical reasoning and our actions, our morality, must be also be reconsidered. The
traditional schema of morality was based in large part on the intellect ‘informing the will.’ If the tenets of the traditional Faculty Psychology are being undermined, how are we to set the basis for practical reasoning and moral judgment that incorporates the new findings of cognitive scientists?

Lakoff and Johnson continue in *Philosophy in the Flesh* to look at the findings concerning the basic level concepts. They first of all make a distinction among three categories of entities in the world: superordinate categories (furniture and vehicle), basic-level categories (chair and car) and subordinate categories (rocking chair and sports car).

We have evolved to form at least one important class of categories that optimally fit our bodily experiences of entities and certain extremely important differences in the natural environment – *basic-level categories*. (Lakoff 1999, 27)

Our perceptual systems can make distinctions at this mid-level category. We can easily distinguish cars from chairs or dogs from cats, but it is much more difficult to distinguish one breed of cat or dog from another breed. The basic-level category is “the highest level at which a single mental image can represent the entire category” (Lakoff 1999, 27) and wherein there is a similarity of shape. What is significant about this concept is that it, like the color concept, is not just a reflection of the external world but that it too involves our bodies and our brains.

Basic-level concepts are body-based – “on gestalt perception, motor programs and mental images” (Lakoff 1999, 28). But it is also this level that entices us to think that the World exists independent of our bodies. Conceptual categories at this level seem to fit the categories of the World – “the cat is on the mat” – but this does not work if we go above or below this basic-level category. It is at this level – the basic-level -- that science
and the laboratory can function, for these categories are the “source of our most stable knowledge” (Lakoff 1999, 30). Lakoff and Johnson summarize the role of basic-level concepts, which are embodied concepts in the following manner:

Our categories arise from the fact that we are neural beings, from the nature of our bodily capacities, from our experience interacting in the world, and from our evolved capacity for basic-level categorization – a level at which we optimally interact with the world. Evolution has not required us to be as accurate above and below the basic level, and so we are not. (Lakoff 1999, 30)

The third type of concepts that exemplify our embodiment are spatial-relations concepts. This is how we make sense of our world. However, spatial relations have no real existence as was found in the physical objects in the basic-level categories. Spatial-relations concepts do not exist as a separate entity.

We use our spatial-relations concepts unconsciously and we impose them via our perceptual and conceptual systems. We just automatically and unconsciously “perceive” one entity as in, on or across from another entity. (Lakoff 1999, 31)

Thus, our automatic neural and perceptive systems enable us to move safely through our world. Once again, we see that our concepts are formed by our bodies and our brain in concert with our world. There is no separation here, no separated entities or independent spaces but rather an evolved system that interacts with the world in which it operates. This is the new paradigm under which we view the world, our world and through which we will come to know ourselves.

Lakoff and Johnson compare their arguments for embodiment with the tenets of the Western philosophical tradition in which:

. . . we have a faculty of reason separate from our faculties of perception and bodily movement. . . in the tradition no aspect of perception or movement is part of reason. Consequently, there is assumed to be an absolute dichotomy between perception and conception. . .
We have seen that basic-level concepts depend on motor movement, gestalt perception, and mental imagery, which is carried out in the visual system of the brain. We have seen that color is anything but pure mental, that our color concepts are intimately shaped . . . by such physical parts of our bodies as color cones and neural circuitry. And we have seen that spatial-relations concepts like front and back are not characterized by some abstract, disembodied mental capacity but rather in terms of bodily orientation . . . the body is not merely somehow involved in conceptualization but is shaping its very nature. (Lakoff 1999, 17)

In summary, the crux of the argument of Lakoff and Johnson is that “we never were separated or divorced from reality in the first place. What has always made science possible is our embodiment, not our transcendence of it, and our imagination, not our avoidance of it” (Lakoff 1999, 93).

The recognition of our embodiment by many contemporaries is not simply a theory to be relegated to the community of new cognitive scientists or to treatises in Psychology. However, a paradigm shift within the confines of the scientific community does not mean that there is an equivalent shift in public perception. Although a new perspective can be detected today in how we make choices, the same cannot be said about how we view ourselves and the world. The Western world today continues to act and continues to prepare its youth in much the same manner as it did centuries ago – as if the body and mind were two separate and distinct entities. Our teaching methods alone appear to validate this separation of mind and body.

*Most Thought is Unconscious*

The second most important finding of cognitive scientists is that most of our
thought is unconscious – that is, there is no rational or reasoning element present within it. All of our attention is focused on what we are seeing, what is “out there” and not on the internal physical processes:

The mechanisms of our vision are not, and cannot be, the focus of our awareness and attention. We are aware of what we see, but not of our seeing. The bodily processes hide, in order to make possible our fluid, automatic experiencing of the world. (Johnson 2007, 5)

Our bodies retreat, our organs hide, in order that all of our attention can focus on the world and so that we can make sense of it in order to wend our way through it. We could not concentrate on the processes of the organ of the ear or the eye. The principle is “insofar as I perceive through an organ, it necessarily recedes from the perceptual field it discloses. . . My being-in-the-world depends upon my body’s self-effacing transitivity” (Leder 1990, 14-15).

Our internal organs and systems operate without our conscious awareness of them. We only become aware of the bodily functions when something goes awry and there is illness or some impediment to these hidden systems. Because of that, it appears to us that our thinking has no relationship to our body but only to our mind. “It is the body’s own tendency toward self-concealment that allows for the possibility of its neglect or deprecation” (Leder 1990, 69). Thus, a dualism – a separation of mind and body – is how our everyday experience appears to us. This is the reason that objectivism and the disembodied mind have continued to hold such a powerful place in our culture. However, upon a closer examination, the continuous movement and operations of the body become quite clear. Our bodies are an integral part of our thinking, although their role is behind the scenes.
Abstract Concepts are mainly Metaphorical

Metaphor is for most people a device of the poetic imagination and the rhetorical flourish. . . metaphor is typically viewed as characteristic of language alone. . . We have found . . . that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature. (Lakoff 1980, 3)

Thus it is that George Lakoff and Mark Johnson clearly state the premise of their book, Metaphors We Live By. Like Paul Ricoeur, who was writing at the same time, they found the traditional Western interpretation of metaphor lacking in that it did not agree with our experience. Whereas Ricoeur attempted to delve down to the first stirrings of pre-conceptual experience, Lakoff and Johnson leveled a lateral attack on present day Objectivism and offered “an alternative account in which human experience and understanding, rather than objective truth, play the central role” (Lakoff 1980, x). Thus, in order to understand the role of Metaphor in their work, it is necessary to first see their account of the inadequacies of Objectivism and how an alternative account, which they call ‘experientialism,’ relies heavily on imagination and metaphor.

In the classical theory of Objectivism we form concepts, wherein the objects must possess all of the necessary features in order to fit within that context. The experiments of the cognitive scientists have shown that rather than the classical theory of categories and concepts:

. . . people tend to define categories (e.g., bird) by identifying certain prototypical members of the category (e.g., robin), and they recognize other nonprototypical members (e.g., chicken, ostrich, penguin) that differ in various ways from the prototypical ones. There is seldom any set of necessary and sufficient features possessed by all members of the category. (Johnson 1997, 10)
What the scientists are stating is that our normal concepts are not structured in the homogeneous and uniform way that traditionalists hold. The brittle structure of our cognition has been replaced by a more fluid and interactive system of sets and frames, based on our experience. This prototypical structure is more expansive and allows us to more easily adapt to and include new cases and information. There is room for imagination to work out a series of possible scenarios involving a new set of possible actions.

It cannot be noted too frequently that the purpose of all of this new work is to see how it is that we make sense of the world. In traditional linguistics, as stated by Chomsky, the word has a fixed meaning. The new studies have shown that this is not how our cognitive system operates. The cognitive linguists “have discovered that our terms and concepts get their meaning relative to larger frames or schemas that we develop to understand the kinds of situations we encounter” (Johnson 1997, 9). Johnson uses the example of ‘baseball’ as the larger frame which gives meaning to various terms – bat, strike, ball, home run, bases, steal etc. These frames do not have an objective existence but are ‘idealized models’ that we have formed from our experience. Obviously, these terms that we have situated within the frame of ‘baseball’ would have other, sometimes conflicting, meanings if placed within a different frame. The powerful import of this newly recognized cognitive process is seen clearly in our present world. Whether we use Lyotard’s *petit narrative*, the cognitive scientist’s ‘frame,’ or the Post-Modern ‘world,’ we are forced to recognize that meaning is not in the thing itself but rather that meaning emerges within a context. Meaning is relational, not absolute. This is quite obvious to us today as we experience the conflict first hand between different
‘worlds.’ For example, we can look at the word ‘fetus’ and see the differing meanings and responsibilities that arise when the word is seen within the framework of ‘medical community,’ ‘Christian community,’ or ‘legal community.’

It has been necessary to elucidate this new conceptual framework in order to see how it is that Metaphor, which had been deemed anathema to rational thought, will be shown to take a role in the formation of the concept. The new linguists state that “our conceptual system is, for the most part, structured by systematic metaphorical mappings” (Johnson 1997, 9). What this means is that we understand more complicated and abstract domains by using more concrete domains of our experience. Language does not supply us with terms to map directly onto our experience but rather, “it is based on systems of related and interlocking metaphorical mappings that connect one experiential domain to another” (Johnson 1997, 9). Thus, we see that, in the burgeoning world of cognitive science, the metaphor plays an essential role in how we think and what directs our actions. Our more abstract thoughts are difficult or even impossible to express linguistically and thus, by means of the metaphor, we relate them to the physical world. This is in direct conflict with classical thought, which considered the metaphor a non-rational aspect of imagination. The traditional view required that principles apply directly, “by means of literal concepts, to situations whose features are objective” (Johnson 1997, 9).

In this new milieu of Johnson and Lakoff, it is interesting to note the significant role that Metaphor has attained. Originally, this literary device was employed mainly to elucidate an abstract or unstructured thought by means of a more concrete and structured
concept. Cognitive science still holds that to be true. What then, is this radical shift in contemporary thought? George Lakoff answers this question in this manner:

The generalizations governing poetic metaphorical expressions are not in language, but in thought: they are general mappings across conceptual domains. Moreover, these general principles which take the form of conceptual mappings, apply not just to novel poetic expressions, but to much of ordinary everyday language. (Lakoff 1993, 203)

The radical shift therefore, entails two significant parts: the metaphor is not purely linguistic, but is primarily conceptual and the metaphor is not limited to literary and poetic works but comprises much of our everyday language. The idea of metaphor as conceptual as opposed to linguistic is of importance as it has caused much confusion and criticism. The role of language is paramount in philosophy and in the cognitive sciences today so it is necessary to clarify exactly what it is that Lakoff means when he states that metaphor is conceptual and not linguistic. Lakoff offers two interpretations of metaphor. In the old theory, “the term “metaphorical expression” refers to a linguistic expression (a word, phrase, or sentence).” (Lakoff 1993, 203) In contemporary research it is noted as:

. . . the locus of metaphor is not in language at all, but in the way we conceptualize one mental domain in terms of another. The general theory of metaphor is given by characterizing such cross-domain mappings. And in the process, everyday abstract concepts like time, states, change, causation, and purpose also turn out to be metaphorical. (Lakoff 1993, 203)

What Lakoff is emphasizing here is that our most basic interpretation of the world is not in an abstract concept but in this ‘cross-domain mapping’ -- in metaphor. We understand one thing in relation to a more concrete entity. Thus, Lakoff takes exception to Joshua Foer’s interpretation of his work on metaphor and states emphatically that “Metaphors don’t just show up in language. The metaphor isn’t in the word, it’s in the idea, and it can’t be wished away with grammar” (Foer 2012, 97).
Lakoff credits Michael Reddy with presenting these two points in his classic essay, “The Conduit Metaphor,” in 1979. In this essay Reddy showed that the locus of the metaphor is not language but rather in thought and that our “behavior reflects our metaphorical understanding of experience” (Lakoff 1993, 204). The import of this essay, wherein Reddy analyzes how we “conceptualize the concept of communication by metaphor,” is evidenced by the fact that following its publication a new branch of cognitive science and linguistics was instituted to study these “systems of metaphorical thought that we use to reason and base our actions on, and that underlie a great deal of the structure of language” (Lakoff 1993, 204).

Lakoff and Johnson contend that, though most of our concepts are understood through the conceptual metaphor, there are some concepts that are quite literal and therefore do not need metaphor. Lakoff refers to the philosopher’s favorite, “the cat is on the mat.” This statement is readily understood because it is a concrete physical experience and needs no further explanation – the basic-level category. However, as soon as we move from the concrete and begin to speak of emotions or abstractions, metaphorical understanding plays a dominant role. “The most sweeping claim of conceptual metaphor theory is that what we call abstract concepts are defined by systematic mappings from body-based, sensorimotor source domains onto abstract target domains” (Johnson 2007, 177).

We have now laid the groundwork that enables us to better understand the quote of Lakoff and Johnson:

. . . metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature. (Lakoff 2003, 3)
For Lakoff and Johnson the task is to show what it means for a concept to be metaphorical and how the metaphorical concept structures our everyday activities. This *structural metaphor*, where “one concept is metaphorically structured in terms of another” is the very basic type of metaphor. The example offered is “Argument is War.”

How is this metaphor portrayed in our daily discourse?

He attacked every weak point in my argument.
You disagree? Okay, shoot!
He shot down all of my arguments.
His criticisms were right on target. (Lakoff 2003, 4)

In each of the above statements we can see that the concept ‘argument’ is set within the frame ‘war.’ It is most important to see that this is not just a literary way of speaking about an argument but that it influences how we interpret the term ‘argument.’ We have an opponent; we hold a position; we attack the opponent’s position; we defend our own position. Hence, argument is held in our culture as a ‘verbal battle.’ To elucidate the significance of metaphorical structuring the authors state: “Imagine a culture where an argument is viewed as dance, the participants are seen as performers, and the goal is to perform in a balanced and aesthetically pleasing way” (Lakoff 2003, 5). Needless to say, our actions and the potential outcomes of an argument would be significantly different within this new framework. Professor Kristen Osenga also emphasizes the importance of the metaphor and its influence on our information policy preferences. She states that it is “especially important to choose the right one, as a metaphor is often the primary tool the general public uses to understand information policy” (Osenga 2013, 30). She takes issue with the metaphors used today to define the processing and sharing of information such as: super highway, coffee shop, cloud and finds them all lacking in some manner. She
has a much fuller, more holistic way of looking at the Internet as “ecosystem.” Once again it is obvious to us that something as complicated and abstract as the concept “Internet” is more easily grasped by us through metaphor. We take this concept and ground it into the world we know – a cloud, a coffee shop, a highway, an ecosystem. We do not simply conceive an abstract, autonomous entity but we bring it into our world in order to comprehend it. But as Osenga illustrates, the choice of the metaphor is of utmost importance. The work of Johnson and Lakoff on metaphor is not meant merely for discussion within the community of cognitive scientists. The metaphor is truly not merely a linguistic or literary device but it influences the way we think and therefore, the way we act. The metaphor of “ecosystem” stresses the interconnectivity of the Internet, whereas “super highway” indicates a separateness of purpose. Thus, we are aware of the importance of the ‘framing’ of our concepts. This will become more apparent as the subject of morality is addressed later in this paper. The main point here is that we do not simply form and act out of an abstract, disembodied concept that is distinct and separate from all else. Rather, we think and act within a context – all our thought is relational. We are embodied and that is reflected in each and every aspect of our existence.

In the structural metaphor one concept is essentially structured in terms of another concept. But, not all of our metaphors fit under this category. Another type of metaphorical concept is the orientational metaphor, “which organizes a whole system of concepts with respect to one another” (Lakoff 2003, 14). Most of these have to do with a spatial orientation, the most common being -- up-down – “My spirits are up today.” These metaphors are not arbitrary but are based on our own physical experience. There
are a number of these spatial orientations under which we organize our concepts: in-out; central-peripheral; front-back; on-off etc. Although these spatial orientations can provide us with some rich understanding of concepts, there is a limit to the information they can present.

In his article, “Contemporary Theory of Metaphor,” George Lakoff offers examples of the conceptual or ontological metaphor. He describes a love relationship in the following terms: “Our relationship has hit a dead-end street” (Lakoff 1993, 206). By examining this simple statement, and all that is entailed within it, one can see more clearly the claim made by the authors of the metaphorical nature of our thought and action. In the above statement, the ‘relationship,’ within the frame ‘love,’ is conceptualized as a journey that has been interrupted, or stalled, and “the lovers cannot keep going the way they’ve been going, that they must turn back, or abandon the relationship altogether” (Lakoff 1993, 206).

As a linguist and a cognitive scientist, Lakoff asks two simple questions:

Is there a general principle governing how these linguistic expressions about journeys are used to characterize love?
Is there a general principle governing how our patterns of inference about journeys are used to reason about love when expressions such as these are used? (Lakoff 1993, 206)

Lakoff answers both questions affirmatively. The metaphor always involves the understanding of one domain of our experience, in this case ‘love,’ in terms of another and very different domain of experience, ‘journeys.’ In the more technical terms of the linguist this is explained as: “the mapping from a source domain (in this case, journeys) to a target domain (in this case, love)” (Lakoff 1993, 207). What we can understand more concretely is the concept, ‘journey,’ whereas, the concept ‘love’ is more difficult
for us to express and thus by expressing love or the relationship in terms of the source domain, our understanding is enhanced. When the metaphor “Love is a Journey” is used, this is a mnemonic for a set of ontological correspondences that characterize a mapping, namely:

- The lovers correspond to travelers
- The love relationship corresponds to the vehicle.
- The lovers’ common goals correspond to their common destinations on the journey. (Lakoff 1993, 207)

Through this metaphor we understand that the lovers are ‘stuck,’ they have reached a ‘dead-end street,’ an impasse. What do we know from the ‘journey’ source frame that we can apply to the ‘love’ target frame? We are faced with certain options on our journey: (1) we can try to get moving again; (2) we can stay where we are, or (3) we can abandon our journey. Now we can more clearly see the options that are present to us in our love relationship and can act accordingly. We can seek out help with our relationship; we can stay in this dysfunctional relationship; we can abandon the relationship. It is to be noted that it is through the use of metaphor that our conceptual view of the situation is broadened and hence, possible actions become more apparent to us. This is the point that the authors are making. Through their studies in linguistics and cognitive science, they have seen that we do not simply form abstract concepts and that our actions follow a direct path from these universal concepts. Rather, with the interlocking mappings and use of the metaphor we open up a variety of options upon which to act. And, as always, the mapping involves the body – the metaphor is grounded in the body and the world.

A summary of the main points put forth by Lakoff and Johnson are as follows: cognitive science has demonstrated that the disembodied abstract universal concept is not
the means by which we experience the world; we use prototypical and nonprototypical categories; our conceptual system is structured by systematic metaphorical mappings; the metaphor is not linguistic but it is conceptual; our cultural moral laws are broadened to include ‘domains,’ ‘worlds,’ and ‘frames.’ Thus, we see that there is a radical new approach to cognition that has come to us through the work of the cognitive scientists.

The metaphor has taken on a new significance. Metaphor enhances our scope of the situation as noted in the words of Paul Ricoeur:

It would seem that the enigma of metaphorical discourse is that it “invents” in both senses of the word: What it creates it discovers; what it finds it invents. (Ricoeur 1977, 239)

Johnson and Lakoff offered three findings of the cognitive scientists that they contend strike a fatal blow to Objectivism:

1. The Mind is Embedded
2. Most of Thought is Unconscious
3. Abstract Concepts are largely Metaphorical.

The arguments made above support these claims and thus, the traditional view of the separation of the mind and the body and the ‘outside’ world appear unable to withstand this evidence. As will be discussed later in this paper, the fact that we learn through forming prototypes and that we use imagination and metaphor to understand our world, will have a determined effect on how we view our own actions and our morality. We will no longer be able to state that we rely on abstract universal concepts to direct our actions. We must look at every action as relational to the context within which it occurs and through prototypes, imagination, and metaphor we can expand that context. We are
beginning to recognize the responsibility and ingenuity of the individual that is demanded within this new paradigm.

With this claim by Johnson and Lakoff that the Western theory of Mind can no longer stand, a threshold has been crossed. Once the tenets and the traditions of Faculty Psychology are breached, one is within a completely new paradigm. No longer can one look at the human being as bifurcated or isolated. In this new and challenging world-view we see ourselves as one whole integral phenomenon. No longer can we claim that one part acts alone for, it takes all that we are to think, to speak, to feel, to create, to act. We cannot ‘control’ particular aspects of our being for it is one. The immaterial, transcendent ‘intellect and will’ of yore are no longer. The mind and will are no longer separate entities, for they are embodied. It is with this foundation that we can see man within a new framework, a new paradigm, as a moral and responsible being.

Mark Turner and Giles Fauconnier

Within this second generation of prominent scientists, along with Johnson and Lakoff, are Mark Turner, a behavioral scientist, and Giles Fauconnier, a cognitive scientist. Like Johnson and Lakoff they have found collaborative work to be beneficial – their 2002 book, *The Way We Think* was received with great acclaim. Although both dyads fall within the paradigm of Embodied Realism, the emphasis of their works and areas of research differ. Whereas Johnson and Lakoff stressed the importance of embodiment by focusing on cognition and more specifically on the role of metaphor and imagination as grounded in the body, Turner and Fauconnier focus on the ‘leap’ that occurred in evolution some fifty thousand years ago with the dawning of what they call
‘conceptual blending.’ For Turner and Fauconnier it was the emergence of the capability of ‘blending’ that left all other mammals ‘in the dust.’

It is incumbent upon any second generation cognitive scientist to define, in some manner, not only the scope of his work, but also to place it securely within a context. For them, the context is Embodiment and thus, within the process of defining their work they separate and distinguish themselves from other prominent existent contexts. Lakoff and Johnson referred frequently to their separation from traditional Western Philosophy and in particular from Objectivism and the principle of universal or absolute Truth. Their study of cognition led them to the conclusion that the basic tenets of traditional Western Philosophy were false.

Likewise, Mark Turner presents his own work by distancing himself from traditional Western thought which he refers to as “this previously-attractive notion of the transcendent disembodied mind” (Turner 2011,1). The paradigm shift that is at the core of his concept of the human being is that we are embodied; there is no dualism, no separation of body and mind. We human beings have evolved from the higher primates in a particular fashion – this is who we are: a mind/body being. For Turner and Fauconnier, as with others within the Embodiment paradigm, this one realization of the embodied human being separates them from the centuries of Western philosophic thought.

Turner and Fauconnier expend effort on highlighting what they consider to be the inadequacies of the first generation of cognitive scientists, whose theories maintained near absolute prominence for thirty years. As was stated above, cracks in the tightly constructed edifice began to surface in the last decades of the twentieth century due to the
overwhelming sense that the conclusions of this science were not compatible with our own experience. Because information processing was deemed insufficient to reflect the nature of man, it appeared that man himself was left out of the equation. Something more was needed. Hilary Putnam expresses the dilemma so well:

A view of knowledge that acknowledges that the sphere of knowledge is wider than the sphere of “science” seems to me to be a cultural necessity if we are to arrive at a sane and human view of ourselves or of science. (Putnam 1978, 5)

Turner and Fauconnier take issue with two seminal aspects of their scientific predecessors’ theory: brain imaging and ‘scaling up.’ Brain imaging was made possible by the development of non-invasive techniques wherein the early cognitive scientists could detect specific areas of the brain undergoing stimulation. This appeared to be such a mechanical, predictive operation that it led to viewing the mind as a computer – data in, data out. It is true that these imaging experiments over the years have produced some very helpful results for natural science, especially in the field of perception, but they have “produced very little insight into how we learn and create, invent and discover, understand and express” (Turner 2011, 7). These contemporary tests involving brain imaging – such as PET and fMRI – appear to the uninitiated as ‘proof’ of exactly what is occurring in the brain. However, according to Turner these are extremely crude measures of the “paramagnetism of relatively deoxygenated hemoglobin – which means they …measure blood flow in the brain” (Turner 2011, 8). These tests are indeed helpful and are used by cognitive and neuro-scientists, but they do not give us any understanding of the nature of the mental capabilities of the human being. No imaging, no matter how developed and sophisticated can show the influence of our physical and social environment on the particular state of mind. The imaging can show that the person is
experiencing fear, but the context, source and environment eliciting that fear will go undetected. These tests simply give an average of the blood flow in the brain and do not give us insight into the neural firings. Turner’s attack on brain imaging is reflective of the critique by Bennett and Hacker on the limitations of the physical sciences.

Just as there is a gap between the animal kingdom and man; there is a gap between the testing and imaging of the brain and the thinking, speaking, creative human being that we experience. As Turner, who himself employs these techniques, summarizes the main effectiveness of the machines to date: “It’s fantastic for detecting what part of the shoulder the weekend warrior blew out lunging for the tennis ball. But, when applied to the brain, it’s still a measure of blood flow, not neuronal activity” (Turner 2009, 15). His hope is for the development of a machine that would test when “people are vibrant in ecologically valid activity, rather than still, silent, alone, supine in a claustrophobic tube . . . often restrained by soft pads” (Turner 2009, 16). In other words, Turner is shining a light on the difference between the test subject of the laboratory and the real, living, breathing, emotive, thinking person of the Embodiment Theory. It is a valid and most obvious distinction. The person has been obliterated within the strictures of the scientific method and the laboratory.

These imaging tests have not been able to replicate the origin of human thought any more than evolutionary biologists have been able to replicate natural selection in their computer programs. What is becoming obvious is that the centuries of time, the multitude of generations, and the fullness and the intensity of the world cannot be compressed into a computer program. Richard Dawkins, as quoted by Fauconnier and Turner, (Fauconnier 2002, 109) expresses this best:
What we ideally should do is simulate a complete physics and a complete ecology, with simulated predators, simulated prey, simulated plants and simulated parasites. All these model creatures must themselves be capable of evolving. But then it might end up cheaper to scrap the computer altogether and look at real animals in the real world, thereby coming back to our starting point! (Dawkins 1996, 36)

Dawkins clearly denotes the problem that we face today: the impossibility of compressing the eons of the evolutionary process, with its fruitless and fruitful attempts and the myriad of interactions, into a computer program. We are faced with a ‘finished product,’ – the twenty-first century human being -- and we are attempting to decipher what must have occurred to bring this being to fruition. The same is true for cognition. It is within this framework, this mind-view, that Fauconnier and Turner attempt to uncover The Way We Think.

The second tenet of the first generation cognitive scientists that Turner and Fauconnier confront is their claim that experiments will ‘scale up.’ “The last forty years have seen many attempts to explain human thought and action by starting small, in the hope of scaling up” (Turner 2011, 6). Models have been set up in artificial intelligence, in linguistics, in logic and mathematics. “The great hope underlying these attempts is that the small-scale autonomous models will, with much more work, scale up appropriately to models of human behavior” (Ibid). The fact is that none of these models has ever scaled up. The models could only follow the instructions as given. The basic idea was that if science could start small, it could eventually build up to replicate the workings of the human mind. But, this was not the case, as has been proven by following this path for decades. It is a fruitless path and should be recognized as such. Nothing of the “distinctive human abilities like language, creativity, art, science, mathematics” (Turner 2011, 7) has been able to be replicated in the computer. Thus, the work of
Turner and Fauconnier will take a different path, a more inclusive approach, a path that separates them from the first generation of cognitive scientists.

Johnson and Lakoff began their collaborative work by exploring the role and use of metaphor. It soon became apparent that metaphor was an integral part of our everyday mode of thinking and could not be relegated to literary works alone. By seeing the role that metaphor played in everyday language and its grounding in our bodies, their work on cognition and their subsequent separation from traditional Western thinking took place. In a similar manner, Turner and Fauconnier began with an interest in creativity and the apparent extra-ordinary blending of concepts that was inherent in artistic and creative works. Their discovery was that this conceptual blending was not limited to the creative arts but that “the same cognitive operation – conceptual blending – plays a decisive role in human thought and action and yields a boundless diversity of visible manifestations” (Fauconnier 2002, vi). After researching and listing the more obvious creative outlets, their work extended into other fields – “grammar, mathematics, inferencing, computer interfaces, action, and design. This launched a general research program into the nature of conceptual blending as a basic mental operation, its structural and dynamic principles, and the constraints that govern it” (Fauconnier 2002, vi). It is this blending of concepts that must account for “the explosion of creativity in tool-making, painting, and religious practice, dated by archeologists to roughly 50,000 years ago” (Fauconnier 2002, vi). Like Johnson and Lakoff in their study of metaphor, Turner and Fauconnier then altered their original field of the study in order to search for the beginnings, the mechanisms and the principles of this mental capacity that they call ‘conceptual blending.’
With the realization that conceptual blending is a mental capability common to human thought, Turner and Fauconnier began to delve into the origins of this aspect of cognition. Where in the evolutionary process do we find traces of this capability? It is common knowledge that “biologically, we resemble other animals, but mentally, we leave them in the dust” (Turner 2011, 5). Our modern drug companies substantiate the claim of our biological relationship to other mammals. These companies must first subject animals to clinical trials before humans can avail themselves of any new protocols. What then is it that separates us so dramatically from all other mammals, whose genetic make-up we so resemble? How is one to account for this vast abyss that exists mentally between the animal kingdom and the human being? The answer to that question is the leading theme of their work.

Today the mystery and the scope of what encompasses human thought, human consciousness, present a major problem for these scientists. This was not the case for the first generation Reductionist scientists. They did expect at some time to be able to understand the workings of the brain completely. Within this context of certitude, there is no room for Mystery and hence, no room for freedom. A world without Mystery, limitation and freedom is indeed flat and one-dimensional. For Non-Reductionists – the present day Enactivists -- on the other hand -- the world and the human being in the world are a constant source of Mystery. This new group of cognitive scientists are well aware of the limitations of their endeavors and the idea of consciousness and the origins of thought fill them with wonder and a sense of awe.

Fifty thousand years ago, more or less, during the Upper Paleolithic Age, our ancestors began the most spectacular advance in human history. Before that age, human beings were a negligible group of large mammals. After, the human mind was able to take over the world. What happened? (Fauconnier 2002, v)
What could be more mysterious, more awe inspiring, than a cataclysmic, though silent, event that propelled one species, one ‘negligible group of large mammals’ to take over the world?

It is apparent that contemporary scientists have reached no conclusions on the origins of human thought. Their work consists in dealing with known facts of the human mind as it operates today and offering theories based on evolutionary findings of probable or possible beginnings. The ‘Hard Problem’ of consciousness as put forth by David Chalmers is not, to my knowledge, treated within the work of Turner and Fauconnier. Their approach appears similar to that of Merlin Donald who stated that his own work, A Mind So Rare “proposes a theory of consciousness that stays carefully on the functional level and does not try to “explain” how awareness could have emerged from a material thing such as a brain” (Donald 2001, 8). It is his opinion that we do not have the resources to “give us even the beginnings of such a theory” (Ibid). In like manner, Turner and Fauconnier appear to ground their work on the fact that we are aware, that we are conscious, and with this foundation, to delve into how the ‘mind’ operates and functions.

Given this context, there are certain things that we do know and Turner and Fauconnier begin by stating the known aspects of the mind’s operation. Their first statement is that we live and we think and we feel – all in the present.

When we think about the past or the future, or anything distant or outside the situation we inhabit, the thinking and feeling are not distant – they are right here, right now, present, confined to our local, human-scale situation, conducted through here-and-now biological systems. (Turner 2009, 1)
The oft-repeated phrase, “Be Here Now,” takes on significance in that the ‘now’ is the only reality that there is for our functioning brain. Our brain activity is of this very moment, whether we recall events of twenty years ago or project twenty years into the future. T.S. Eliot stated this phenomena in more poetic language:

   Time present and time past
   Are both perhaps present in time future
   And time future contained in time past.
   If all time is eternally present
   All time is unredeemable.
   What might have been is an abstraction
   Remaining a perpetual possibility
   Only in a world of speculation.
   What might have been and what has been
   Point to one end, which is always present.
   (T.S. Eliot, *Burnt Norton*)

It all occurs at this moment, through the present neuronal firings in our brain. Turner quotes Sir Charles Sherrington, who described this activity of the brain as an “enchanted loom” where “millions of flashing shuttles weave a dissolving pattern, always a meaningful pattern, though never an abiding one” (Turner 2009, 1). We are capable of bringing to mind events of the past and can experience severe emotions associated with the recalled event, but the emotions are surging through our bodies now, at this present moment. The mystery is that we can reach far into the past, and extend ourselves far into the future, but we do so in the present moment.

   Both our memory as a system and any particular memory we experience are present biological events. The universe does not bend back upon itself when we remember, to make two different times intersect in one time. This sense of the intersection of past and present . . . is an adaptive delusion. (Turner, 2009, 3)
This ability to conceptually integrate the past and the present, the future and the present is known as ‘blending.’ As Turner makes clear in his article, “The Origin of the Selkies,” ‘blending’ is a capability that evolved in many mammalian species and it is noted that:

    Human beings evolved not an entirely different kind of mind, but instead the capacity for the strongest form of conceptual integration, known as ‘double-scope’ blending. Human beings are thus on a gradient with other species, but what a difference an extra step makes. Double-scope blending is the hallmark of cognitively modern human beings, and The Grand Difference is the product of double-scope blending. (Turner 2004, 90)

‘Double-scope blending’ is the hallmark of Turner and Fauconnier’s work into how we think; how we are so distinctive from our mammalian ancestors. This capability is the Grand Difference – that which separates us from all that has come before. Thus, we are embodied, but so are all mammals; we have the ability for conceptual integration – but there is “no reason to doubt that many mammalian species aside from human beings have the ability to execute rudimentary forms of conceptual integration” (Turner 2004, 90).

But what separates us, what constitutes the Grand Difference, is the next step in the evolutionary process – double-scope blending.

    We see that in the animal kingdom there is some type of mental progression. Our ability to think and create did not simply appear out of nowhere but is predicated on all that came before. We see in the animal kingdom a capability to survive, to pick up signals, to process data, to recognize objects. There is no sign of a disembodied, transcendent mind present at this level and thus “Presumably, mammals all have embodied minds” (Turner 2011, 1).

    Since we see embodiment in lower level mammals, it is obvious that the new paradigm of embodiment put forth by second generation cognitive scientists is not complete within its own structure to explain adequately the nature of the mental life of
the human being. There needs to be another element present according to Turner, for no matter how long arduous work is done with the primates they do not attain the abilities that a young child masters within the first years of life. The embodied mind is the basis, the foundation for Turner’s work. However, the embodied mind cannot encompass the whole story and Turner sums up his theories by his emphasis on the statement that:

\[ \text{All mammals have embodied minds, but only cognitively modern human beings have robust culture.} \quad \text{(Turner 2011, 2)} \]

What happened some fifty thousand years ago that made us what we are today rather than simply one more mammalian species progressing along the same spectrum? Turner and Fauconnier have found in their studies that conceptual blending is the underlying capability that informs how we think, not just in creative endeavors but, in our everyday life. It was the emergence of this capability that “choreographs vast networks of conceptual meaning, yielding cognitive products that, at the conscious level, appear simple. . . (but) even our simplest thinking is astonishing complex” (Fauconnier and Turner 2002, v).

This is the Grand Difference that Mark Turner and Giles Fauconnier treat in their collaborative work *The Way We Think*. They begin their examination of conceptual blending by first determining the role that form has played in the last decades. The reason for first addressing the prevalence of form is their contention that much has been assumed in these form approaches, namely: “identity, integration, and imagination. These operations . . . are at the heart of even the simplest possible meaning” (Fauconnier 2002, 6). It is the pervasive form approaches of the Reductionists that the Embodiment scientists find lacking and it is the assumptions within this paradigm that the authors intend to bring to light.
In our own lifetime we have seen that there has been an explosion of converting thought and concepts into form -- in computers, in art, in science. Our present day world is fraught with wonders that come from the “systematic manipulation of forms” (Fauconnier 2002, 3). Even “life in all its richness and complexity is said to be fundamentally explainable as combinations and recombinations of a finite genetic code” (Ibid.). We are all familiar with the technology of the computer that converts ideas, pictures, formulas into a long string of 1’s and 0’s. It is commonplace today to receive a photograph transmitted electronically from one computer or Smart Phone to another device and upon reception there is immediate recognition of the image of a beloved grandchild or friend. Thus, it appears to us that there is no loss of meaning through transmission of form. We recognize the person immediately! Therefore we conclude from our experience that “form carries meaning with no loss. A picture is worth a thousand 1’s and 0’s” (Fauconnier 2002, 4). We find the emphasis on form everywhere: museums are filled with Abstract art; Institutes of learning concentrate on enabling students to manipulate forms. Thus, the world of form became the realm of the analytic philosophers, linguists and philosophers. The perception is that meaning itself is wholly within the form. The scientific method was the recognized paragon of all knowledge, meaning and truth. However, it was the second generation of cognitive scientists who found serious problems within this paradigm.

Fauconnier and Turner contend that we cannot confuse the form with the substance: the photo is not the baby; the weather simulation is not the snow encasing our home; the legal deed is not the family around the dining table. The forms are not the
substance. In the twenty-first century the scientists are detailing more clearly, more accurately the role of form:

\[(t)he\ miracles\ of\ form\ harness\ the\ unconscious\ and\ usually\ invisible\ powers\ of\ human\ beings\ to\ construct\ meaning.\ \text{Form\ is\ the\ armor},\ \text{but\ meaning\ is\ the\ Achilles\ that\ makes\ the\ armor\ so\ formidable.}\ ...\ \text{Form\ prompts\ meaning\ and\ must\ be\ suited\ to\ its\ task.}\ \text{(Fauconnier\ 2002, 5)}\]

The first generation cognitive scientists and linguists were equating form with meaning. This new generation is aware of the pitfalls within and they see that something as commonplace as the computer transmitted photo of the newborn takes a brain on both ends of the transmission to “construct the identity between the picture and the baby” (Fauconnier 2002, 5). The photo in itself has no meaning; it takes a brain to make the connection, to set up an identity, to give meaning to the dots on the paper. The meaning is not in the form itself; meaning is generated by the brain in conjunction with the form. “On their own forms are hollow” (Fauconnier 2002, 6). “What is behind form is not a thing at all but rather the human power to construct meaning” (Ibid.). Whereas the first generation concentrated on form and how it could be manipulated, this second generation is looking at what is behind form, what the first generation has taken for granted. For it is here that one can discover the substance, how it is that we think, how it is that we make meaning – meaning of our world. Thus, the idea that form alone carried meaning was being upended: brains and minds were needed.

The intention of these early scientists to reduce all knowledge to a symbolic form can be traced back to the syllogism in Aristotelian Philosophy, which has been a standard of clear and logical thinking for centuries:
A = B

C = A

Therefore, C = B. “Aristotle’s syllogism is a formal, truth-preserving manipulation of meaning” (Fauconnier 2002, 9). Today there has been an attempt to formulate a symbolic logic that allows that meaning is within the object itself.

Fauconnier and Turner disagree and recognize that this approach has become snarled and does not have within it the means to progress. Many decades and many resources have been poured into perfecting a symbolic or form orientated science and for them, Fauconnier and Turner, it has come to a stalemate. They, schooled in Analytic Philosophy and Objectivism, stepped back from their studies and their profession, as we have seen others over the centuries do, and have looked at the problem and the evidence gathered in the laboratory with a fresh eye. This type of syllogism and this type of thought is appropriate for prototypical concepts but there is no movement beyond the obvious conclusion. There is no way to deal with something that does not fit in completely within this format. Thus, their own work begins, as it did with Mark Johnson and George Lakoff, with a sense of dissatisfaction, confusion -- a stalemate. It is not a question of simply revamping or tweaking the existing data but rather looking at the data anew and a willingness to step out of the comfort zone and into the unknown. How is it that we think?

Fuuaconnier and Turner look beneath that which is analyzed in the laboratory. They found that very basic operations of the mind were the most difficult or even impossible to be put into a form or format to be replicated on the machine. The brain could not be a machine -- for the machine could not do the most basic operations that
were accomplished by the human and even the young child alike. They offer the instance of ‘binding’ – of bringing together innumerable operations of the brain into one simple object – ‘a coffee cup.’ On face value this appears to be the most basic and simplest operation of the brain and should be easily replicated but that is not the case.

As neuroscience has shown, the many aspects of the cup of coffee – (the color, shape, topology . . .) are apprehended and processed differently in anatomically different locations, and there is no single site in the brain where these various apprehensions are brought together. . . neuroscience does not know the details of that unification. How we apprehend one thing as one thing has come to be regarded as a central problem of cognitive neuroscience, called the “binding problem.” . . we assume the unity comes from the thing itself, not from our mental work. . . We see the coffee cup as one thing because our brains and bodies work to give it that status. . . Having investigated form with an array of instruments, we are now turning to the investigation of the fundamental nature of meaning on which form relies. (Fauconnier 2002, 7-8)

Fauconnier and Turner are outlining a thesis that is in direct opposition to Objectivism. The unity and the meaning of the object are not ‘out there’ for us to discover. The unity and indeed, the meaning of the object is a construction of mind, body and environment. We apprehend the world and we give it meaning because we have an active and creative part in each and every process. The ‘world’ is not out there for us to discover.

I see a cup, and, in the folk theory, the reason I do is that there is a cup that causes me to see a cup. In the same way, I hear a sentence and I “see” a meaning for it, and, in the folk theory, the reason I do is that there is an abstract thing, the meaning, that causes me to “see” it. (Fauconnier 2002, 57).

We have evolved certain senses and capabilities that enabled us to survive and to arrange the world into a human scale upon which we can interact and thus give meaning to this part of the world. We are active members, not passive robots. It is important to recognize that we continue to evolve, we continue to work with and create the world for this human condition. For Fauconnier and Turner, the meaning is not in the form, just as the armor is not Achilles, but rather the form points to the meaning and the substance
underlying the form. It is the underlying capabilities of the mind that is presupposed in form approaches and the focus of Fauconnier and Turner’s work is to bring these to light.

What occurred some fifty thousand years ago that produced the ‘great divide’ is the interest of their study. It is what they declare that the first generation of cognitive scientists have taken for granted and it is this underlying, mainly unconscious, layer of cognitive activity that has brought the form theorists to a halt. Fauconnier and Turner name three distinct functions that evolved at that time – what they refer to as the three I’s: identity, integration and imagination.

Identity: . . . identity and opposition are finished products provided to consciousness after elaborate work; they are not primitive starting points, cognitively, neurobiologically, or evolutionarily.

Integration: Finding identities and oppositions is part of a much more complicated process of conceptual integration. . . which typically goes entirely unnoticed since it works fast in the backstage of cognition.

Imagination: Identity and integration cannot account for meaning and its development without the third I of the human mind – imagination. . . the imaginative processes we detect . . . are in fact always at work in even the simplest construction of meaning. The products of conceptual blending are always imaginative and creative. (Fauconnier 2002, 6)

Fauconnier and Turner address the operations that they believe have been simply assumed by the advocates of form approaches. The need to address these operations came of necessity as replicating our cognitive processes in the computer ran into complications; unanticipated problems arose in the laboratory. It was found that computers could easily be programmed to perform complicated chess moves, but they could not be instructed to do simple tasks that the scientists never thought needed exploration. The robot could not find its way out of a room; a simple cup of coffee could not be identified. It became apparent that inherent in these simple tasks, capable of being
performed by a young child, there were two processes: *binding* and *blending*. The computer programs, the epitome of form, could not replicate these basic, everyday cognitive processes. Thus, one cannot equate the computer and the mind quite so readily. Fauconnier and Turner saw these processes of binding and blending to be the most basic unconscious, instantaneous and unified components of cognition. How do we learn? How do we gather information to serve us in the world? How we learn and how we think are part of our evolutionary development and our ability to judge and to choose must follow in a like manner, for these are processes that have been developed over the millennia and that contribute to our survival.

The operations that include *binding* and *blending* are “at the heart of even the simplest possible meanings: Identity, Integration and Imagination” (Fauconnier 2002, 6). These are the basic operations that allow for our everyday mundane thought and our highest creativity. Somehow, and we know not how, this is the capability that emerged some fifty thousand years ago that set the human being apart from all the evolutionary processes that had preceded it. This is the foundation of how we think and how we act. It is at this juncture that we begin to see that a new way of looking at the human being is demanded and a new way of looking at morality is demanded. No longer can we look to purely rational abstracted disembodied essences and from them forge a code of disembodied behavior. We have evolved from the primates; we did not follow the prescribed path of the primates but rather under certain pressures, needs and socialization there emerged new capabilities that brought us to our present condition. There is not necessarily a ‘gap’ in the evolutionary tale, but rather an instance of ‘emergence.’ The new apparition is greater than the sum of the previous parts, but there is not a dis-connect,
only a pressurized emergence. It is this emergence that Fauconnier and Turner discuss in detail for this is the mental capability of conceptual blending, which in its highest and most advanced form is termed *double-scope* blending.

This ability of conceptual blending is not immediately apparent to us today, for it is the underlying, mostly unconscious, network of our thought.

Almost invisibly to consciousness, conceptual blending choreographs vast networks of conceptual meaning, yielding cognitive products that, at the conscious level, appear simple. The way we think is not the way we think we think... our simplest thinking is astonishingly complex. (Fauconnier 2002, v)

What exactly do we mean by *double-scope* blending? How does this evoke a chasm between the human and all other mammals? What is the nature of this emergent ability and what are the ramifications of this event? Fauconnier and Turner define the double-scope network in the following manner:

A double-scope network has inputs with different (and often clashing) organizing frames as well as an organizing frame for the blend that includes parts of each of those frames and has an emergent structure of its own. In such networks, both organizing frames make central contributions to the blend, and their sharp differences offer the possibility of rich clashes. Far from blocking the construction of the network, such clashes offer challenges to the imagination; indeed, the resulting blends can be highly creative. (F&T 2002, 131)

There is an obvious resemblance here to Johnson and Lakoff’s explanation of metaphors and target frames. The same principle is found in both the use of metaphor and in conceptual blending: we rely on objects that are known to us and with which we are comfortable in order to deal more easily with difficult, more abstract, concepts. However, Fauconnier and Turner emphasize that *double scope blending*, unlike conceptual blending common to all mammals, has a resultant emergent structure that is unlike either of the input frames. Turner and Fauconnier clarify the quote above by using the example of the
computer, which is a complicated and intricate machine but is constantly being made
more ‘user friendly.’ In order to facilitate its use, the Computer Desktop has two main
inputs as described below:

different organizing frames: the frame of office work with folders, files and
trashcans, on the one hand, and the frame of traditional computer commands, on
the other. The frame in the blend draws from the frame of office work – throwing
trash away, opening files – as well as from the frame of traditional computer
commands – “find,” “replace,” “save,” “print.” (Fauconnier 2002, 131)

What has occurred here is that we have taken two distinct and separate frames – the
office and the computer -- and ‘blended’ them together, with the result that a new frame
has emerged: the computer desktop. As anyone who worked with the early computers is
well aware, this new frame is much more compatible with our own experience and we
can more easily engage with it. There is an immediate recognition on our part when we
come across the ‘folder’ or the ‘trash can’ as these concepts are part of our everyday life.
The blending not only facilitates an understanding but it also produces a new and
broadening concept. We are no longer constrained in our thinking; we can see that we
can put ideas within differing frames and the result will be a deeper understanding of the
concept and also an opening up of many more possible actions.

*Double-scope blending* has allowed us to reach beyond the confines of our own
experience and has exploded the limitations of human thought. This capability has
enabled us to grasp ideas and concepts that would be beyond our ability, as they are
beyond the ability of other mammals. Our human brains have evolved to “conceive of
scenes that are at a *human scale*” (Turner 2009, 4).

It is a spectacular scientific puzzle that human beings are the sole
species that seems to be able to think and feel beyond the limits of the scale
for their species. *Human scale* is fundamental for human thinking and feeling,
but we go beyond our scale in ways so thoroughly different from members of other species as to place us in a different galaxy of thinking and feeling. (Turner 2009, 5)

The ‘beyond the limits of the scale’ for the human species is what Turner refers to as the network scale:

The hypothesis suggested here is that our ability for double-scope blending gives us the capacity to create vast conceptual networks with extended vital relations that are nonetheless anchored in scenes that are at human scale. . . The human scale blend contained in the network provides us with a platform, a scaffold, a cognitively congenial basis from which to reach out, manage, manipulate, transform, develop, and handle the network. (Turner 20009,6)

The difference between the two scales becomes apparent in Turner’s reference to Al Gore’s presentation on global warming. In his slide presentation Gore presents us with the famed photograph of earth from some 4 billion miles away, in which our planet appears as a blue dot. He then suggests that we listen to the voices of future generations – our children and grandchildren – who will one day ask us why we did not address the great problem of our time. It is obvious that these concepts – viewing earth from space, hearing the voices of future generations – are not within our human scope of abilities.

However, we can readily understand Al Gore’s presentation. We know how something looks smaller as we allow distance between ourselves and an object and thus we can effect the blend with this network scale – we can bring the network scale within our human scale of experience and can picture the earth from space. The same is true of generations. We can project our own being forward some twenty years and we can project potential off-spring into the future because all of these projections are grounded within our embodied human scale experience. It is this double scope blending that so enriches our daily lives and experiences.
Fauconnier and Turner have put forth a theory that revolutionizes our traditional concept of man. First of all they have emphasized our relationship to all mammals that preceded us, with our evolutionary character included as an integral aspect of their work. Mark Johnson, commenting on Turner’s article, “The Scope of Human Thought,” refers to double-scope blending as “one of the grand cognitive strategies” in that, without resorting to dualism or miracles, it allows for abstract thought to emerge from the embodied mind (Turner 2009, 13). Thus, we now must consider our embodiment as essential to the character of man, his thought and his actions.

With the introduction of double-scope blending as a common capability of man, Fauconnier and Turner have expanded our definition of ourselves. We are no longer constrained within our own bodies and our own limited experience; we have the ability to stretch beyond our experienced world. It was apparent with Johnson and Lakoff in their treatment of metaphor that the framing of the situation was of utmost importance – seeing argument as a dance as opposed to a war. The same holds true with our framing in the double-scope blending. The frames that we choose can determine the path that we take and the success or failure of the process. As was seen above, the computer became ‘user friendly’ when the ‘office’ was introduced. If in its stead, formulas (as was the case with the first computers) were the frame used to execute certain functions, we would not have the plethora of communication that we experience today.

Johnson and Lakoff, Fauconnier and Turner have given us a view of the embodied and enactive man. Our way of thinking and relating to our world is not the prescribed way that has been held for centuries. What does this mean for us today? How does the concept of metaphor, of framing, of double-scope blending affect how we make choices
and judgments? These scientists have broadened the scope of our thinking and hence they have broadened the scope of our responsibility. Fauconnier and Turner have broken down the barriers of a self-encrusted dark and narrow world. They have expanded the parameters of our experience and given us a new way of seeing ourselves in the world.

*Andy Clark and David Chalmers*

Within the paradigm of Embodiment an additional theory offered by Andy Clark needs to be considered. In the Introduction to his book, *Supersizing the Mind*, Clark distances himself from the early cognitivists. He refers to their theories as being ‘Brainbound,’ whereas he uses the term ‘Extended’ to characterize his own works. What Clark offers that is new and exciting is his treatment of the extension of the human being into the world with the use of tools. His claim is that the tools, external non-biological extensions, are not simply things to be used but rather are to be assimilated into the cognitive process itself. He states that the thought experiments and demonstrations in his book do the following:

aim to reveal computational representational, information-theoretic, and dynamical approaches as deeply complementary elements in a mature science of mind. This emerging complementarity is the final feature of recent work that I want to highlight. (Clark 2011, 24)

In 1998 Andy Clark collaborated with David Chalmers on an article entitled “The Extended Mind.” The question they raised is: “Where does the mind stop and the rest of the world begin?” They set out to abolish not only the age-old dichotomy of the self and the world but they attack the concept that our skull and skin separate us from this world. Those who do not see the ‘skin and skull’ as the boundary of the being suggest that the meaning of our words are not just in the head but they contend that “this externalism
about meaning carries over into an externalism about mind” (Clark 1998, 220). Clark calls this position “an active externalism, based on the active role of the environment in driving cognitive processes.” (Ibid.) Clark sees the computer as the most obvious extension of our cognition for it is here that we store much of our memory and concepts. We know from first hand experience that we can more easily access the computer or our PDA to verify an appointment than trusting our brain memory! The claim made by Clark and Chalmers is as follows:

If, as we confront some task, a part of the world functions as a process which, were it done in the head, we would have no hesitation in recognizing it as part of the cognitive process, then that part of the world is (so we claim) part of the cognitive process. (Clark 1998, 222)

This, then, is the essence of their thesis. This is not just an accidental coupling mind and machine, mind and world, but the human organism is joined with this outside entity in a back and forth interaction, which creates a coupled system, which can be “seen as a cognitive system in its own right. All the components in the system play an active causal role” (Ibid.) and together they govern and direct behavior.

Clark cites many common instances of our manipulation of the external world into the cognitive process. One of his favored examples is the Scrabble tiles on the tray: we manipulate and re-arrange them on the tray to form possible words. In Clark’s way of seeing, this rearrangement is not part of an action but “it is part of thought” (Clark 1998, 225). The same holds true for the pen and paper. The process of writing with the pen and paper, the active loop between the organism and the external medium, is the thought process itself, an integral aspect of cognition. “Language appears to be a central means by which cognitive processes are extended into the world” (Clark 1998, 225). Clark and Chalmers conclude that this external or extended cognition is not an add-on but is an
essential aspect of the cognitive process. Thus, the influence is not just that of the organism on the external but it is truly a loop, an interactive process. For them, the study of the mind must include this coupling and new methods must be devised to study them.

The Embodiment Theories have offered us new definitions of who we are in this evolutionary cycle. If we are to accept our active extension into the world there needs to be a reconstruction of the concept of ourselves. There are “consequences for the philosophical views of the mind and for the methodology of research in cognitive science, but there will also be effects in the moral and social domains” (Clark 1998, 232).

*The Provisional Plateau*

In the second decade of this twenty-first century we have reached a provisional plateau, a temporary resting place. The vista from this vantage point is a full 360 degrees. One can look back into the past to see the varied evolutionary strands that have brought us to this place and the multiple interpretations that have ensued. Looking back we see that the two most distinctive interpretive strands are incommensurable. One must make a choice: either we live in a world that is independent and autonomous with a determinate essence that we can know or we and our world are intimately intertwined and all our knowledge is contextual. It is the contention of this paper that those who interpret the scientific data within the paradigm of embodied realism, an intimately intertwined relational reality, more fully express the present day understanding of the nature of man. All conclusions and definitions are provisional due to the fact that all is seen within an ever-evolving context. Therefore as of today, the contention is that within this new paradigm we do not experience a subject and object, but rather we experience the
Heisenberg principle of observer and observed. We affect and conscribe our world and we are affected by our world.

Change your brain, your body, or your environment in nontrivial ways, and you will change how you experience your world, what things are meaningful to you, and even who you are. (Mark Johnson 2007, 1-2)

From today’s provisional plateau we can then face forward, conscious of all that is past, to assess our present situation and glimpse into a possible evolutionary future. That is the mission and the responsibility of each individual and is the subject of the ensuing chapters.
CHAPTER 6

THE ESSENTIAL MYSTERY

As humans, we can identify galaxies light years away . . . but we still haven’t unlocked the mystery of the three pounds of matter that sits between our ears.

- President Obama announcing the initiative to study the brain.

As George F. Will in his Washington Post article of August 25, 2013 explains the goal of the Obama administration’s $100 million project to study the workings of the brain he states that the project could be “a resounding success without unlocking the essential mystery: How does matter become conscious of itself” (Will 2013, A23)? Today we find that studies of the cognitive neuroscientists have found their way into the mainstream media. The interest of the populace at large centers mainly on mental illness and aberrations, with the hope that discovery of the inner mechanisms of the brain will lead to a cure or alleviation of suffering. But, the essential question concerning consciousness itself remains unanswered: what is its origin and how is it that a purely material brain can produce thoughts and feelings and what we know as ‘experience’?

Thus, in order to attempt to formulate some guidelines for practical reasoning and moral judgment it is first necessary to see where we stand today on this provisional plateau. What data has science provided that is relatively stable and upon which we can temporarily construct a theory today and glimpse into the future? In other words, what is that we know with some certainty and what remains a mystery to us?

Two major mysteries remain in our knowledge of evolution: the leap from inorganic to organic matter and the leap to consciousness. It is not within the purview of this paper to deal with the leap to organic matter, which many scientists attribute to
chemical changes but it is of great import to deal with the question of consciousness, or awareness. The greatest mystery that we face in trying to know who we are is obviously this mystery of consciousness itself. We all experience it, yet we know not its source.

Thomas Nagel in his book of 2013 *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False* attacks an entrenched worldview of this subject. Harkening back to the distinction made by Teilhard de Chardin of the without/within, Nagel states as follows:

... scientific revolution of the 17th century ... depended on a crucial limiting step at the start: It depended on subtracting from the physical world as an object of study everything mental – consciousness, meaning, intention or purpose ... Since the long process of biological evolution is responsible for the existence of conscious organisms ... it follows that biological evolution must be more than just a physical process, and the theory of evolution ... must become more than just a physical theory. (Nagel 2013, 2)

It is evident that Nagel contends, as does David Chalmers, that “Mind ... is not an inexplicable accident or a divine and anomalous gift but a basic aspect of nature that we will not understand until we transcend the built-in limits of contemporary scientific orthodoxy” (Ibid). Therefore, it is evident that there is much information that has been derived from the physical sciences and yet we continue to exist in a world that is replete with mystery. The physical sciences are incapable of providing us with a ‘theory of everything’ for elements, such as consciousness, free will, responsibility and meaning have been for the most part deemed beyond their purview due to the fact that these elements cannot be quantified in the laboratory. Yet, Science holds an important role.

As W.H. Auden states in *The Dyer’s Hand and Other Essays*: “Without Art we should have no notion of the sacred; without Science we should always worship false gods.” The physical sciences can and should act as guidelines to keep our thoughts and
projections in line with what can legitimately be known empirically but it is necessary to look into other disciplines to provide a fuller view of the nature of man and our place in the world.

**Hermeneutical Ontology**

- reality is in constant collaboration with our perception;
- vision can only be understood in time as well as space and light;
- our understanding is not just a reading of the world but is actually shaped by our environment;
- and this environment, the object of our perception, is shaped by our perceiving eyes.

- *James Turrell: A Retrospective 2013*

In order to assess the present and to look into the possible future it is necessary to put the physical sciences in the proper perspective. No longer can science be considered to be the only method for attaining truth. Science can provide us with valuable data that can prevent us from going off on a faulty tangent, but science itself is limited. As is seen from the quote by Thomas Nagel, “everything mental – consciousness, meaning, intention or purpose . . .” has been removed from the study of the physical world. It is precisely ‘everything mental’ that is the subject of this paper. Thus, it is obvious that the physical sciences cannot supply the answers to the questions most meaningful to us. However, the data gleaned by these cognitive and neuro-scientists must necessarily be taken into account.

Through the studies of the cognitive process, it is apparent that man is not dualistic – a body and a mind but rather that we are embodied – one entity that has evolved over the centuries. Thus it appears that these two facts – our evolutionary development and our embodiment can be taken as facts and operate as underlying factors
as one moves from the paradigm of Objectivism to a fuller paradigm which accounts for the whole human being: Hermeneutical Ontology.

The introduction of a hermeneutical ontology into the sciences is a most dramatic and essential shift and one that brings the cognitive sciences within a completely new and separate paradigm from all that has transpired in science since the Enlightenment. It was metaphysical principles that first energized these sciences of the eighteenth century and that have continued to flourish culturally in the form of a common sense rooted in objectivistic assumptions about reality and Being. The view of the world as consisting of independent structurally discrete entities was the basis of the Cartesian epistemology and resulted in the subject/object dilemma. The res cogitans and the res extensa – the mind/body dualism of Descartes – set the stage for natural sciences for centuries to come.

What exactly is the incommensurability of these two paradigms? The physical sciences, the laboratory of Objectivism, and the hermeneutic approach are contrasted in the following manner:

*Interpretation* – alternatively, *hermeneutics* – belongs to the method and thinking of . . . the human sciences, (which) have diversified over time (but) have retained their original focus on cultural meaning and its transmission. . . This describes a tradition of scholarship oriented towards the ‘space’ of shared and transmitted meanings within the context of the social historical lifeworld. . . The hermeneutic orientation is contrasted with the *explanatory* tradition . . . Explanatory method aims at the construction of a mathematical model comprising measurable (theoretical) variables, to be accepted or rejected by reason of its ability under laboratory circumstances to predict and control the causal outcomes of assigned initial conditions. (Heelan 1998, 274)

Thus it is within this new paradigm that reality is seen as “shared and transmitted meanings within the context of the social historical lifeworld” as opposed to being seen as composed of free-standing, autonomous objects. In this new vision we have moved
from seeing reality as composed of independent beings (metaphysics), to experiencing reality as correlative (ontology). In other words, reality is made up of events of meaning rather than separate objects. And within this context there is no subject/object dichotomy but rather an observer/observed interaction making all of our knowledge relational. As was discussed in embodied realism, we do not learn by merely abstracting essences but rather in a prototypical manner that finds a relationship between one event and another.

To formulate any provisional theory today, besides situating it within the context of hermeneutical ontology it is necessary to consider the effect that quantum mechanics has had on our understanding. It is Heisenberg’s ‘Uncertainty Principle’ that elucidates the finite quality and limitation of our cognitive ability in that we must choose to observe either the position or the momentum of the quantum but not both. With experiments done on wave/particles the uncertainty of the outcome is emphasized. It is here that one speaks of observer/observed for both are intimately linked and affect each other. In other words, the study of quantum mechanics has introduced us to the notions of uncertainty, of observer/observed and of our finite cognitive ability – all within the context of a hermeneutical ontology, just as the Theory of Relativity has shown us the abstract character of notions of “absolute” time and space. These ideas are incommensurable with the tenets of Enlightenment wherein certitude and limitless knowledge were foundational to the endeavor modeled on the principles of Newtonian mechanics. In this new paradigm, we are participants in a relational world of mystery and uncertainty and these notions must be incorporated into any theories we propose. Nothing within this new paradigm stands alone and therefore nothing has meaning outside of a relational context.
It is within this paradigm that a new vision and a new definition of the Person can be constructed.

*The Roadmap*

The intent of this paper is to propose a new vision and definition of man within this paradigm of embodied realism and hermeneutical ontology and to situate some provisional moral guidelines within this context. The question that arises at the outset is, given our awareness that so much of our make-up is determined, can we be held morally responsible for our actions. It is the contention of this paper that there is, keeping in mind our genetic, cultural and neural determinism, a modicum of ‘elbow room’ within which we can direct and reformulate neural pathways. In order for there to be any sense of moral action certain elements must be present: a Self or an agent, an element of freedom and hence, a responsibility to act to promote the well being of the person within his/her lifeworld. It is important to note that these elements must only be seen within a hermeneutical context and are treated separately in this paper only for the purpose of clarification. In other words, one cannot look at an agent or a self as distinct from the context within which he/she operates and the sense of freedom and responsibility are not separate faculties but rather are integral aspects of the situated person whom we postulate. Thus, it is only when a person, freedom and responsibility are established that one can formulate minimal guidelines for practical reasoning and moral judgment within this new framework.
Who’s in Charge?

As we face ourselves today, a most important question arises: ‘Who, if anyone, is in charge?’ Western society was quite comfortable with the traditional concept of the Person as a being with a rational mind and a free will. Traditionally, we conceptualized the presence of a Subject “that is the locus of reason and that metaphorically has an existence independent of the body” (Lakoff 1999, 268). Thus it is that we experience ourselves as bifurcated with a Subject or a Self, directing our separate operations of reason and will. Indeed, that is the same faculty psychology that is attacked by the cognitive neuroscientists, but it did give us a sense of autonomy, a sense that we were responsible for our actions. Using the language of the religious world, an immortal soul was infused into a material body, a body that held the august title of the ‘temple of the Holy Ghost.’ This inner being was to be honored and was to exert control over the passions of the physical body. It is true that even within this paradigm wherein the reason held sway, an awareness of some limitation on freedom was recognized. There are givens – being thrown into the world - that have always been recognized: one’s society, parents, gender, linguistics. One’s freedom operated within this given context and the person was responsible for all actions within this framework. There was an acceptance of the faculties of reason, free will and emotions and it was the job of the person to see that the passions did not rule but rather that the strong will followed the dictates of the rational mind. The “I” was definitely in charge!

With the advent of the first generation of cognitive scientists this traditional paradigm came under severe scrutiny. No longer was there an inner being in control of
the thoughts that arose and the actions that ensued. The cognitive scientists are unanimous in holding to the tenet that “no such things as selves exist in the world: Nobody ever was or had a self” (Metzinger 2004,1). John Searle states the same concept but emphasizes our need to postulate an organizing principle: “There is just the brain and the experiences that go on in the brain. Nevertheless, . . . we do need to postulate a self, but . . . it is a kind of principle of organization of the brain and its experiences” (Searle 2003, 121). Steven Pinker concurs with his contemporaries that there is no Self in control but that we experience the need to produce a ‘Unifier’:

Cognitive scientists have not only exorcised the ghost but have shown that the brain does not even have a part that does exactly what the ghost is supposed to do: review all the facts and make a decision for the rest of the brain to carry out. Each of us feels that there is a single “I” in control. But that is an illusion that the brain works hard to produce. (Pinker 2003, 42).

It is a most common experience of the human being that we initiate our thoughts and our actions and yet, that sense of autonomy is deemed to be an illusion by this cadre of scientists. Referring back to the Benjamin Libet experiments, it is simply stated that “the experimenters knew what you would think and do just before you did” (Harris 2012, 11). The important factor that science has revealed to us is that much of our thought is below the level of consciousness – the physical systems – such as perception – operate of necessity without our awareness or interference. According to these scientists, our thoughts arise unbidden from the unconscious. As is demonstrated by the time lag in the Libet tests, our brain reacts several seconds prior to our conscious awareness of any thought or action. It is because of this time lag, and the fact that thoughts and actions are spontaneous that Sam Harris has declared that the perception that we are “responsible for the character of our mental lives and subsequent behavior is simply impossible to map
onto reality” (Harris 2012, 13). If we are not the source of our behavior, who are we? Daniel Dennett has offered the insight that one must look at the workings of the whole being, not just the reactions of the brain. But, no matter how one holds the results of the Libet tests it is obvious to us, upon reflection, that there is a complex interactive neural structure at work within our systems. For this first generation of cognitive scientists the fact that the brain is spontaneously stimulated and that thoughts and actions ensue absolutely negates the theory of an interior ‘director.’ Shaun Gallagher and Dan Zahavi (Gallagher 2008) state that the question of the Self for the ‘neurosceptics’ (the ‘hardliners’) depends, not on its existence or experience but, whether it fits into our scientific worldview. “According to this criterion, the concept of the self has been weighed and has been found wanting” (Gallagher 2008, 199).

Steven Pinker, Sam Harris, Daniel Dennett and all ‘Hardliners’ contend that we are evolutionary creatures and as such we are born into the world with our own genetic formation and also our cultural memes. We do not enter this world with the mind as a ‘blank slate’ but rather with the genetic make-up from our ancestors and the cultural memes that have been passed down through our generations. Thus, our thoughts and our actions are the results of eons of trials and errors that have led to our survival. There is no space for freedom as we are programmed from our birth. Within this paradigm, a paradigm of determinism, there is a need for rules and social contracts in order to avoid chaos but the Self, the Person and true Agency are denied.

The latest paradigm proffered, Embodied Realism, offers more options for a new definition of man. “Given our new understanding of the mind, the question of what a human being is arises for us anew in the most urgent way” (Lakoff 1999, 7). Now that
science has demonstrated that our minds are embodied, that we are not composed of a separate body and mind, that there is no separate inner being, an “I” directing us, who is it that is in charge? How do we account for responsibility? How do we begin to form a theory of practical judgment and moral reasoning? Is it possible with the scientific data at our disposal to conceive of man in any manner except as determined by the “three pounds of matter that sits between our ears”?

The underlying concept within an ontological hermeneutical paradigm is that of relation/correlation. Nothing makes sense without seeing it in a context, in relation to all that surrounds it. So, too, with the brain. “We need to move beyond the idea of the brain as an isolated, independent organ” (Glannon 2009, 327). The brain “is not an isolated, self-sustaining organ but a relational organ that shapes and is shaped by the mind in the way it mediates interaction between the organism and the external world” (Glannon 2009, 328). It is Andy Clark who promulgated this ‘extended mind theory’ in which the mind is not confined within the skin and skull but rather reaches out into the world in an interactive looped fashion: Mind – world – mind. According to Walter Glannon “Neuronal factors cannot fully represent the environment to the organism because they lack the property of intentionality. . . It is not the brain but the subject constituted by the brain and the mind who is the agent” (Glannon 2009, 322). Here we see the concept of ‘agent’ introduced, although Glannon does not explain how it is that the subject or agent is ‘constituted by the brain and the mind.’ Once again, we come face to face with the gap, the mystery, of the existence of self consciousness, of our awareness, of all that makes us a subject or an agent. Nevertheless, Glannon has put forth the concept of an
agent and it is this agency that allows for the possibility of freedom and the responsibility for thoughts and ensuing actions.

In the reading of contemporary writers within the paradigm of Embodied Realism, there are definitely gaps, assumptions and some conflict. As is seen with Glannon and his postulations, the gaps and mysteries stem from the fact that at this stage of our knowledge, there is no way to account for the existence of consciousness, of mind. According to Merlin Donald “Our present intellectual and scientific resources are not sufficient to give us even the beginnings of such a theory” (Donald 2001, 9). It is truly a Mystery how it is that we can communicate with each other and be aware of our own being and the outside world. We know that abstract and creative thought is possible, for we experience it every day of our lives. But to define the terms ‘mind’ and ‘consciousness’ in any complete fashion is beyond our ken. We know that minds exist and we know many of its operations but it continues to remain mysterious to us. Thus to some extent the very foundation of our definition of ourselves and of our practical reasoning and moral judgment remain in a ‘cloud of unknowing.’

We do know that the concepts of ‘mind’ and ‘subject’ are linguistic constructs and that it is only through the emergence of language that we endow the world and our own being with ‘meaning.’ However, it is with full recognition of what we do not know – what remains clouded in Mystery – that one may and must continue to reach out basing new knowledge on both Mystery and on factual data. And thus we proceed to focus on a minimal standard necessary for moral reasoning and judgment within the paradigm of Embodied Realism. In order to formulate a ‘theory of ethics,’ a theory that assists one in his/her ‘choices’ and actions, three elements must be present: a personal Agent, Freedom
and Responsibility. If there is not an Agent or a Self in some form there is no way to assign responsibility. We are now in possession of the latest data of the physical sciences and, bolstered with that information, other disciplines are required to offer interpretations as this is beyond the purview of the physical sciences. It is apparent that contemporary writers have offered a variety of choices to be considered regarding the existence of some form of Agency. As has been stated, the material determinists deny the existence of a Self and of free will. However, it is the contention of this paper that there is in some sense a Self, a self that is a guiding principle in one’s life. This thesis of a self is bolstered by other scientists who also adhere to this interpretation of the scientific data.

“It is not brains but persons who follow rules, lie, and deceive. Persons perform these actions as social beings interacting with others” (Glannon 2011, 194). Glannon contends that the person is an agent due, not only to our embodiment but also because of the fact that we are ‘embedded’ within our culture and our society. The notion of being embedded does not relate merely to the physical relationship of the individual and his/her culture but more importantly to the communal linguistic agreement of values and meanings within the group. Thus, for Glannon we are truly relational agents. He sees the brain as a ‘relational organ’ and not as the only cause of our thoughts and actions. The brain is part of the process, and a most important one, but it is the organ that assists us in relating to our whole experience. In a like manner Steven Rose states that:

‘We’ are a bunch of neurons, and other cells. We are also, in part by virtue of possessing those neurons, humans with agency... because we have minds constituted through the evolutionary, developmental, and historical interaction of our bodies and brains... with the social and natural worlds that surround us, that we... as humans, possess the agency to create and re-create our worlds. Rose 2005, 305.
In other words, agency is not an individual process but rather is a function of being embedded within a linguistically mediated and structured society. There is no aspect of our being, of our emergent qualities and functions that can stand as discrete occurrences. All must be seen contextually and most particularly within a cultural, linguistic, historical framework.

According to Mark Johnson, all of this is in contrast to the traditionally held view of the self or the agent:

Objectivism treats the self as existing and having its identity, both temporally and metaphysically, prior to its actions. It treats the self as retaining its essential structure – as rational will – regardless of the contingent acts it performs and the historical situations it inhabits. (Johnson 1993, 161)

In this traditional sense, the self is treated as an essential structure existing separately and therefore, prior to the contingent experiences that arise. The self is a ‘thing apart,’ a director and unifier of all experience. Within the new paradigm of Embodied Realism, nothing can exist apart from anything else for all is interconnected including the brain and even the self. How does this new generation of scientists conceive of this most important notion of who we are?

Johnson refers to the “nonobjectivist, or experientialist view . . . (which) regards the person as a self-in-process” (Johnson 1993, 161). In other words, the self is not an entity unto itself, it is rather an evolving process. We do not have a determined consistent directing self; we are beings-in-process within an evolutionary context.

We exist as complex, self-transforming biological organisms in interaction with our physical, interpersonal, and cultural environments. . . We inhabit this world both as beings who are constituted by sedimented cultural practices, institutions and meanings, but also as constituting beings who can gradually transform dimensions of these preexistent, inherited structures of meaning and action. (Johnson 1993, 161)
This experientialist view does not view the self as a discrete entity but rather it sees the self and also its actions as “interwoven into a basic experiential process and it thus regards the identity of the self as an emergent structure of an experiential process . . . of physical, interpersonal and cultural interactions” (Johnson 1993,163).

In referring to the relational identity of the self, Johnson employs the term ‘emergent structure’ rather than simply ‘evolving structure.’ This distinction is evident in the gaps, mysteries, or leaps that have been treated within this paper. Organic or living organisms do not appear to supervene on all that preceded it. Living organisms did not simply evolve but rather the organism seems to emerge – or make a leap – from its antecedents. So, too, with consciousness. As Clark and Nagel have expressed so well – nothing that preceded consciousness can explain its presence on the evolutionary time line. In dealing with the ‘self” that is denied by the hardline cognitive scientists, once again we encounter the term ‘emergence.’ The essence of this concept is that the resulting phenomenon is ‘beyond’ its underlying components. It may be that there is a critical mass and the ‘pressure’ elicits the emergence of a new phenomenon. This is conjecture, as is much of the interpretation at this point in our history, but the fact that we experience a sense of self may indeed be an emergent event and one to be considered seriously as we look to the potential future of the evolutionary process. Linguistic behavior is itself an emergent event and it is now an entrenched ability that allows for the formation of the narrative structure – the cultural, social, linguistic structure that forms this ‘self.’ Once a ‘property’ – living organism, linguistic behavior, consciousness, self – has emerged and been ingrained within the process, it is then becomes integral to the continuing evolutionary process.
This is the story then of the self, an ongoing linguistic narrative that evolves over time and is refined through experiences. Looking at the self as a narrative construction is at the root of both Johnson’s and Gallagher’s theories.

It is within the narrative that one can synthesize a lifetime of experiences. We are constantly trying to make sense of our world and of ourselves and it is through this synthetic narrative that we create a unity of diverse experiences. The narrative is not merely a story but it “characterizes the synthetic character of our very experience” (Johnson 1993, 163). It is through the narrative that we see ourselves and our present actions presuppose some underlying synthesis that gives meaning to our lives. Disconnected or unrelated discrete events make no sense to us but simply appear as a slide show on the screen of our consciousness. We strive and yearn for some meaningful existence and it is the narrative structure that insures that. We place events, experiences, thoughts and actions within an overarching structure, within our narrative context, in order to explain to ourselves and to others the meaning and purpose of our lives.

Stanley Hauerwas promotes the theory of the narrative as most important to the formation of ethical guidelines. He strongly criticizes contemporary ethical theories that foster the notion of absolute moral principles. He contends that these notions are appealing due to “humankind’s quest for certainty in a world of contingency” (Hauerwas 2006, 87). It is the formation of virtues and character, and not merely decisions that constitute the moral self. It is his contention that “it is character, inasmuch as it is displayed by a narrative, that provides the context necessary to pose the terms of a decision, or to determine whether a decision should be made at all” (Ibid. 84). Hauerwas, like Lakoff and Johnson, sees the self as evolving, as a synthetic narrative, which
provides the context out of which the individual acts. The narrative encompasses the whole being, its history, its thoughts and emotions, and the choices made. It is forever changing, yet there is the constancy of its being embedded within the community or communities to which it adheres.

Alasdair MacIntyre clearly describes the import of the narrative in his 1984 work, *After Virtue*. Here he states the central role of the narrative to our moral life:

>I can only answer the question “What am I to do?” if I can answer the prior question “Of what story or stories do I find myself a part?” We enter human society... with one or more imputed characters – roles into which we have been drafted – and we have to learn what they are in order to be able to understand how others respond to us and how our responses to them are apt to be construed... Deprive children of stories and you leave them unscripted, anxious stutterers in their actions and in their words. (MacIntyre 1984, 221)

“The narrative of one life is part of an interrelated set of narratives, defining the individual as a member of a number of interrelated institutions: a family, a city, a guild or profession, different organizations, and a nation” (Gare 1998, 5). Thus, in phenomenological hermeneutical terms it is the narrative that provides the context for the evolving life and the emergence of the self. When we speak of practical reasoning or moral judgment it must always be seen within the framework of the unfolding narrative. One does not simply obey absolute rules but rather one expresses the self out of this historical content and within its’ emergent context. It is to be noted, however, that not all narratives are coherently formed, nor do they always express an emerging self. Yet, it is most frequently the personal narrative, within the context of the communal narrative, that is most helpful in forming a sense of the emerging self.

Prior to the last few centuries much time was spent purely on survival but many people today have the time to reflect on their narrative and to attempt to give some
meaning to their individual progression and to this world they inhabit. Victor Frankl contends that this search for meaning is the primary motivational force in man:

> Man’s search for meaning is the primary motivation in his life and not a secondary rationalization of instinctual drives. This meaning is unique and specific in that it must and can be fulfilled by him alone, only then does it achieve a significance which will satisfy his own will to meaning. (Frankl 2006, 99)

In our present society we experience more ‘free time,’ – especially among retirees— and their over-riding statement is that they want to do something meaningful with this last period of their lives. The individual with a constructed narrative will only find meaning if the proposed project or work fits into his/her construction as meaningful. Meaning is communal and, as will be shown later in four examples, much of meaning depends on the ‘worlds’ or communities to which we belong. As Patrick Heelan states: “Meaning is a public ‘domain’ where people share the products of human understanding first by common habits of action . . . and then through the use of language and language-like media” (Heelan 1998, 278).

The term ‘meaning’ has a multitude of connotations ranging from the meaning or definition of a single word to the ‘purpose’ we make of our lives. For Mark Johnson, it is most important to note that “meaning is relational. It is about how one thing relates to or connects with other things” (Johnson 2007, 10). More specifically, with an embodied organism, meaning is constructed by means of the organism’s experience with its environment. How we interact, how we relate, how we connect with our environment is what we call human meaning. The scope of meaning is broad for it encompasses “the connections to past, present, and future experiences, actual or possible” (Johnson 2007, 273). Meanings emerge through these interactions and “are not the constructions of a
Walter Glannon expresses this thought in the following manner:

I perceive a unified set of events within which I am an agent and from which I construct meaning. My autobiographical past, conscious present and anticipation of the future – fused horizons – constitute my experience as a subject existing through time. (Glannon 2009, 325)

It is through language that the ‘unified set of events’ and the ‘agent’ become meaningful for it is through our linguistic behavior that all events are brought into existence.

Thus, just as in the Embodied Realism’s theory of knowledge, so too in ‘meaning’ and personal identity, it is the interaction of the body, brain and environment that is essential. One can never think nor act in an isolated manner for all of reality is contextual and this premise underlies every aspect of their theories and is the thesis of this paper.

For Shaun Gallagher and Dan Zahavi even our own narrative must be seen as contextual and they stress this “social dimension of selfhood” (Gallagher 2008, 201).

I am not the sole author (of my story). . . the way the story unfolds is only in part determined by my own choices and decisions. . . (it) is not only interwoven with the stories of others (parents, siblings, friends, etc.) it is also embedded in a larger historical and communal meaning-giving structure. . . Who we are depends upon the story we (and others) tell about ourselves. (Ibid.)

In other words, we do not construct our narrative alone for we are intrinsically connected to others – we are embodied and we are embedded. We know our early stories because they have been constructed by our parents and we have been ‘thrown into’ certain ‘worlds’ or communities from birth. We have taken on the principles and meanings of that original grouping and whether we remain faithful to those earliest communities or not depends on our later experiences and the lifeworlds we choose to inhabit. “One cannot be a self on one’s own, but only together with others, as part of a linguistic...”
community” (Ibid.). The importance of language in defining the self and in establishing the meaning of experiences is promulgated by Mark Johnson in the following manner:

Language . . . is the basis of our ability to communicate with others, to coordinate actions, and to engage in fruitful inquiry through the employment of meaningful signs. Meaning is thus both (1) grounded in our bodily interactions -- in the qualities and structures of objective situations; and (2) always social, because it would not exist in its fullness without communicative interactions and shared language, which give us the means of exploring the meaning of things. (Johnson 2007, 266)

Thus, when we look at the first requirement for the basis of any theory of morality it is essential that there be an agent, a so-called self, who is able to direct his/her actions and who holds responsibility for them. According to the experientialist view, with which I agree, there is an evolving, dynamic, linguistic, social, narrative, unified aspect of our being: a self.

*Freedom Without Free Will*

Traditionally, the term ‘free will’ has been used to designate a ‘faculty’ of our being and as such, it is considered to be a distinct, and by some, a separate faculty. The simplistic explanation offered is that the faculty of reason presents information to the faculty of ‘free will’ that then makes the choice of either following the dictates of reason or succumbing to the passions of the body. It is the common claim of cognitive scientists to deny the existence of ‘free will’ as it is seen within a ‘faculty’ paradigm. It is not within the purview of this paper to enumerate the multiple and varied accounts of ‘free will’ but the intent here is to put forth the proposition that there are no separate faculties within man, but rather that these abilities are evolved, interrelated and contextual.

The traditional notion of rationality, together with Kant’s idea of autonomy, gave rise to the view of human beings as autonomous rational actors, with
complete freedom of the will and a transcendent rationality that allows them to think anything at all and to freely choose their purposes and beliefs. This view is false. (Lakoff 1999, 536)

But the question arises: If we are not autonomous and do not have free will as formulated by traditional Western Philosophy, do we as human beings have any freedom whatsoever? Are we completely determined in our thoughts and actions by the neuronal firings of our brains, our genetic make-up, and our cultural evolutionary process? In order to put forth the foundation of a new morality, a guide for our actions, some freedom and responsibility must be ascribed to the emergent Self.

The various theories of free will – determinism, libertarianism and compatibilism – have been treated above by Sam Harris but, in conjunction with these three it is important to look at a selection of contemporary authors on the topic. Lakoff and Johnson offer their views of freedom that are based on their detailed studies of cognition. Their basic premise is that our cognition is embodied, that is, our thought is metaphorically related to our physical bodies, through our use of language, which is itself an embodied and embedded behavior.

We can only form concepts through the body... Subjective experiences and judgments correlate in our everyday functioning with sensorimotor experiences so regularly that they become neurally linked. Primary metaphor is the activation of those neural connections. (Lakoff 1999, 555)

In other words, we begin at an early age to relate all concepts to our bodies – such as happy is ‘up,’ while sadness is ‘down’ – the smiley face/frowney face is a perfect example of this connection. These pathways begin to take on their own life. If we are raised with the concept that ‘more’ is power and strength, that pathway will begin to determine our thoughts and our actions as the pathway will continuously be
‘automatically’ activated. This is what is meant by determinism in its initial sense – the neural pathways activate automatically and we act accordingly – without the freedom of choice. Due to the establishment of the various pathways early in childhood, the first thought, emotion, action that arises for us comes from these entrenched and now powerful and habitual pathways. Experientially, we are aware that we are creatures of habit but in the deterministic world our ways of thinking and acting are physically structured (neuronal pathways) within the person at an early age.

We also know from the studies of Lakoff and Johnson that “Most of our thought is below the level of consciousness” (Lakoff 1999, 556). Because our physical systems operate on their own – without our conscious intervention – and our neural pathways are relatively established “we do not, for the most part, have control over how we conceptualize situations and reason about them. . . Since reason is embodied, and since will is reason applied to action, our will cannot transcend the constraints of the body” (Ibid.).

Where in this system is there any room for change or freedom? We are all aware of the difficulty of changing our ways of thinking and acting. Innumerable self-help books have been written on the subject and if any one had the answer, there would be no more books! Yet, they continue to proliferate, which can only indicate that the ‘new approved system’ is not working. What can the cognitive scientists tell us about change and freedom? First of all, Lakoff and Johnson are not stating that we have no modicum of freedom or no ability to change the pathways that have been forged. What they do declare is that “conceptual change is at best slow and difficult” (Ibid.) – a statement with which most would agree. However, we do not and cannot simply change a pattern by fiat
but rather we can change the metaphor or the paradigm under which we have been operating. This is where cognitive science can prove most helpful in our everyday lives. Simply look at the metaphors traditionally associated with food and how they are changing today. Candy, sodas, junk food, desserts for instance were associated with love and a reward system: be a good child – receive a high calorie, unhealthy treat; eat your dinner and then you can have the ‘good’ food; a friend is honored for an achievement by celebrating with alcohol or cake. Our society has forged neural pathways combining good behavior or love with the act of feeding – “I love you so much, I could eat you up.” Within the last few decades a new paradigm has emerged and the intake of food is now fused with ‘health.’ Obesity is still a major problem in our country but an awareness of the need of good food and exercise is quickly gaining ground. If someone speaks of “10,000 steps” a day, it’s meaning is understood by most in the room. Slowly and with difficulty the old paradigm of food intake as love and reward is being diminished but it will take many more Farmer’s Markets and White House Gardens to affect a complete paradigmatic and metaphoric shift. However, Lakoff and Johnson state that by understanding the metaphor under which one operates, there is the ability, the freedom, to create a new metaphor and hence initiate the beginning of a different neural pathway. That shift can occur despite the genetic and societal influences within our own system. We are evolving creatures, we are subject to change and variations and we can use these forces to our advantage.

The cognitive scientists have provided us with knowledge that we operate under certain metaphors and it is these metaphors – such as food symbolizes love – that activate the neural pathways. Armed with this information the invention of new metaphors can
prove helpful in treating addictions. There must be a recognition that the primal neural arousal will most always occur, that it must be recognized as such, and that a new tenuous pathway can be formed. In an anxious moment rather than calming oneself with a narcotic that has been the habitual relief, a paradigm of ‘exercise alleviates anxiety’ can be initiated. One can never deny or hope to completely eradicate the entrenched pathway, but with persistent practice a new pathway can be initiated. The same procedure can be helpful in one’s personal life and to an individual’s reaction to certain circumstances. For instance, if one has been imbued with the notion that they are unable to achieve success in any form, that thought will arise unbidden in the event of any challenge. The arousal of that pathway can be met with a recognition of the inbred paradigm followed by the conscious awareness of the ability not to act out of that paradigm and to proceed according to a newly formed paradigm. Thus, within this narrow window of freedom there is room to transform one’s life and the meaning therein and to become a productive human being. It is not an easy task but it is a rewarding and promising path to follow. Awareness of our ‘givens’ from our genes, neural composition, evolutionary traits and our environment are essential elements for enacting this transformation of the determining factors of our being. Thus, these second generation cognitive scientists do attest, not to a separate, autonomous faculty of free will, but rather to a freedom to slowly and laboriously take responsibility for our neural pathways and the metaphors that activate them.

As has been stated, the ‘hard liners’ – the determinists – contend that our genetic make-up and our formed neural pathways are the only source of our thoughts and our actions. On NPR’s Science Friday of October 25, 2013 the guest, James Fallon, was
interviewed to discuss his book, *The Psychopath Inside*. Fallon, a neuroscientist, had been doing research on the similarities of the brain scans of psychopaths. Due to prior studies he had conducted, he was an avowed genetic determinist. The new studies of the psychopathic brain validated his position. During the time of his study of the psychopathic brain he was asked by a researcher in another field to offer his family’s brain scans to enlarge a population. Fallon explained his reaction upon seeing the scans of his own family:

The last scan in the pile was strikingly odd. In fact it looked exactly like the most abnormal of the scans I had just been writing about, suggesting that the poor individual it belonged to was a psychopath—or at least shared an uncomfortable amount of traits with one....When I found out who the scan belonged to, I had to believe there was a mistake....But there had been no mistake. The scan was mine.

There was no doubt that Fallon had the genetic brain of a psychopath and upon interviewing his own mother and relatives, discovered that his family history was replete with murderers, even including the famed Lizzie Borden. How is it that he, with this inherited genetic profile, was a successful married man with children and a respected scientist? His mother provided the answer that resulted in Fallon’s reassessment of his scientific theory of genetic determinism. His mother informed him that after suffering four miscarriages he, James Fallon, was born and became the most adored and beloved child of his parents and relatives. At an early age the mother noticed behavior that deeply concerned her and the extended family was called in and asked to assure that this child had the most loving and supportive upbringing possible. They succeeded. Fallon speaks of an enchanted childhood.

Fallon, ever the scientist, then went to family members, co-workers, friends and acquaintances and discovered that, although they loved and respected him, there were
traits, such as lack of empathy, of which they were well aware. He began to speak openly of his analysis of himself that included thoughts that surfaced unbidden, questionable reactions to events and scenarios that fit the profile of the brain scan. His conclusion was that he was genetically programmed to be a psychopath and that his mother, aware of some alarming traits in her child at an early age, was able to provide a nurturing environment in order to ‘over-ride’ his genetic programming. Fallon speaks of the power of a ‘nurturing environment’ but our society has been well aware of the influence of a malevolent upbringing as was famously depicted in the lyrics of “Gee, Sargeant Krupke” in *West Side Story*:

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Dear kindly Sergeant Krupke,
Ya gotta understand--
It’s just our bringin’ upke
That gets us outta hand.
Our mothers all are junkies,
Our fathers all are drunks.
Golly Moses -- natcherly we’re punks.
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Fallon’s assessment of his own experience is that with knowledge of genetic determinism, there is a narrow window of freedom within which one can act to keep the deterministic features in check. Yes, our genes are capable of determining who we are if they are given unimpeded license, but with knowledge of the situation, one can potentially modulate and moderate the inborn programming by means of nurturing and environment. Thus, it is not solely our genes that determine who we are. Reductionism is not the only answer concerning our behavior but there is a narrow window of freedom that can exert great influence over our process.

There are other cognitive and neuroscientists who are studying the phenomenon of the ability to ‘override’ the entrenched neural pathways and who are shedding light on
a window of freedom. Michael Shermer writes of a hypothesis put forth by Marcel Brass and Patrick Haggard who conducted a test similar to the famed Benjamin Libet. In this new testing Brass and Haggard allowed the participants to “veto their initial decision (by) pressing a button at the last moment” (Shermer 2012a, 86). The scientists found that a specific area of the brain became activated when the subjects thwarted an action they had previously chosen. “Our results suggest that the human brain network for intentional action includes a control structure for self-initiated inhibition or withholding of intended actions” (Ibid.). In other words, according to these scientists, we are capable of interrupting our programmed pathways – what Shermer refers to as “Free Won’t.” The ‘free won’t’ theory fits in with the experiences stated above concerning addictions and our automatic response to situations. Here, science is confirming the existence of this window of freedom that allows us to alter the programmed and engrained action or thought.

There will obviously be innumerable studies on the brain in the future that will present us with a variety of results that will needs be coordinated very possibly into a new paradigm. But for now it is quite obvious that much of our thought and activity are determined by our physical bodies, our genetic make-up and our cultural evolution.

Not all scientists concur with the notion of our determinism. On the other end of the spectrum, Stephen Barr, a professor of Physics, is very critical of the “physicalism” -- the idea of determinism -- that is so popular in today’s society. His contention is that science has been essentially altered by the introduction of quantum mechanics that he deems to be “a new conceptual foundation for all of physics” (Barr 2009, 19). In this new theory, the notion of probabilities was introduced to the world of science, a world
that prided itself on absolutes. Within this new theory, even if we knew all of the information about the state of the world, we could not project the outcome with certitude but we could offer a *probable* outcome. This fact according to many physicists undermines the basic tenets of determinism. However, there are many scientists who disagree with this coupling of the two theories. Barr further expounds on our openness to truth and meaning as realities that are above us and if we are determined by chemical reactions in the brain, we cannot state that we are open to truth. “It is our freedom that makes possible our openness to truth, beauty, goodness” (Barr 2007, 20). In other words, he is saying that we cannot as a determinist state that something is the truth if the ‘lower’ realities are determined. We cannot have it both ways. His contention is that the science of an earlier age allowed for determinism but that theory has been upended by the theories of today that speak only of *probabilities* and *indeterminacy*.

There are other scientists who absolutely deny us any free choice and yet hold that we must be held responsible for our actions. Michael Gazzaniga states as follows:

> It is time to get over the idea of free will and move on. . . (The brain) makes decisions based on experience, innate biases, and mostly without our conscious knowledge. . . But brain determinism has no relevance to the concept of personal responsibility. (Gazzaniga 2012,1)

For Gazzaniga, as for Sam Harris, responsibility “exists as a rule of social interaction” (Ibid.). As a society it is necessary to hold people responsible for their actions and as Joshua Greene and Jonathan Cohen see it, the law should therefore be a deterrent and not a punitive system. Those who hold that individuals are responsible but not free contend that society must make rules that need to be followed and if they are not the individual needs to be held responsible. The inference is that our legal system needs to be amended to reflect the fact that some people are intrinsically damaged and a punitive system will
not rehabilitate them. There is much clarification that is needed on this subject of the legal system and the responsibility of citizens whom they deem responsible yet determined by their neural pathways and genetic make-up.

While it is beyond the scope of this investigation to summarize the evidence for the competing theories fully, the intent of this paper is to argue for the theory that, with an understanding and appreciation of the deterministic elements of our being, we as evolved and evolving human beings have a freedom to forge our identity and choose our destiny through social adaptive cooperation by creating and imagining new metaphors and paradigms within which to operate more meaningfully. “The concept of freedom that is supported by the naturalistic idea of the body-mind is a modest freedom to contribute to transformations of our situation, and thereby to self-transformations” (Johnson 2008, 280). We cannot fathom what ‘leap’ or ‘leaps’ have been made within the evolutionary process of the human being. We experience ourselves as a Person, a person with dignity who is responsible for his/her actions and who confers meaning upon himself and the world within which he operates. The new definition of freedom is a less fulsome version than that of the autonomous person with a faculty of free will, but this narrow window of freedom, attested to by the scientists, may have emerged into a new evolved being, a Person with rights and responsibilities who strives for identity and meaning in this life and is intrinsically related to the communities and worlds within which he participates.
Our moral tradition is essentially a morality of constraint and limitation.

The exclusive focus on this dimension (constraint and limitation) has led us to overlook a conception of morality . . . that is primarily expansive and constructive.

- Mark Johnson, *Moral Imagination*

The line of demarcation between a traditional Objectivist theory of morality and a new vision of morality offered by the theorists of Embodied Realism centers on the opposing views of the Self-identity and absolute versus contextual truth. As was seen above, “objectivism regards the self as having a fixed, ahistorical, self-contained essence that is independent of its ends, acts, or relations” (Johnson 1997, 132) whereas the embodied view is that “We are creatures in process, evolving selves whose identities are tied up with social relations and are affected by historical contingencies . . . a self-in-process” (Johnson 1997, 133).

The concept of truth within this new morality does not refer to an absolute truth but rather:

Truth is always relative to a conceptual system and any human conceptual system is mostly metaphorical in nature and therefore, there is no fully objective, unconditional, or absolute truth. (Johnson 1980,185)

This idea of truth being contextualized is not an original concept of the cognitive scientists. Richard Bernstein suggests that Hans-Georg Gadamer appeals “to a concept of truth that . . . amounts to what can be argumentatively validated by the community of interpreters who open themselves to what tradition ‘says to us’” (Bernstein 1983,154). It is the dialogue within the community, the back and forth, that is most characteristic of
who we are: “we are dialogical or conversational beings in whom “language is a reality” (Bernstein 1983, 162). This is not to say that truth is relative to what an individual opines, but that truth is found within the particular ‘lifeworld’ of the individual. Hannah Arendt, like Gadamer, is skeptical of “any model of practical reasoning that identifies it with the subsumption of particulars to general rules or universals. . . Judgment is communal and intersubjective” (Bernstein 1983, 219). Thus, as we begin to discuss a new morality within an ontological hermeneutical paradigm it is important to stress our relationality. All that we think, all that we judge, all that we are is within relationship. Our minds are not transcendent but are intrinsically interwoven within our bodies, environment and our social interactions. Most of our thought and the formation of our concepts depend on the relationships we forge between objects and experiences. In other words, we see and experience similarities – which means that things intersect in some ways but not in all ways – Venn’s circles.

Traditional Western Philosophy and morality are, for the most part, based solely on reason that illuminates one’s ‘duty,’ ‘happiness’ or the ‘common good.’ It is precisely the primacy of reason itself that is questioned in a new morality. Johnson describes the traditional theory in the following manner:

Reason guides the will by giving it moral laws – laws that specify which acts are morally prohibited, which are required, and which are permissible. Universal reason not only is the source of all moral laws but also tells us how to apply those principles to concrete situations. Moral reasoning is thus principally a matter of getting the correct description of a situation, determining which moral law pertains to it, and figuring out what action that moral law requires for the given situation. (Johnson 1993, 7)

It must be made clear at the onset that any new concept of morality is not meant to discard the ‘absolutes’ that have been determined by traditional theories of morality. The
universal that have been developed over the centuries are held in high esteem and are to be considered as the stable foundation or core of any new theory:

What absolutism gets right is the existence of a shared, stable part of our basic moral concepts. There are large numbers of clear, unproblematic cases where there is no question what we should do. These form a kind of stable core of morality that we assume unreflectively and even unconsciously most of the time. For such clear cases it will make perfectly good sense to say that they fall neatly under fixed moral laws. But the absolutist’s mistake is to generalize incorrectly in claiming that all moral reasoning works this way. (Johnson 1999, 80)

In other words, theorists of a new morality agree with the traditional ethicists in that there is a stable aspect to many of our moral concepts. There are rules that can be applied to typical scenarios, which in many cases can be deemed universal. However, their contention is that not all situations are typical and the traditional normative ethical rules do not offer guidance for these non-typical situations. The traditional method is good and effective as far as it goes, but more is needed in order to guide the human being when faced with non-prototypical situations. The Embodied Realists are not dismissing traditional theories but rather are expanding and reframing our human situation and hence, our scope of morality.

The importance of one’s moral stance cannot be overstated, for our very identity emerges from our choices. Paul Taylor expresses it as follows:

It is clear that if a person’s morality were different, his whole experience of life would be altered. He would not only behave in another fashion, but would have different thoughts, feelings, attitudes, and desires. In short, he would be another kind of person. (Taylor 1975, 4)

It is not the intent of this paper to enumerate the various philosophies of morality that have been promulgated over the centuries but rather to consider the basic distinctions between an Objectivist Theory and the ‘new morality’ that is emerging today. The most obvious separation of these distinct paradigms is that the new morality is always
contextual and communal, for it cannot be other, whereas the traditional paradigm is
deemed ‘universal’ and results in imperatives, without regard for historical or dialogical
mediation.

*The Role of Metaphor*

When speaking of metaphor we are speaking of the tools we use to make sense of
the world in which we have been ‘thrown.’ Patrick Heelan uses the term ‘lifeworld’ as
“the philosophical ‘field’ (‘space’ or ‘domain’) of and for human understanding,
characterized by the action of embodied human inquirers in communication with one
another and with their environment against a background of active cultural networks”
(Heelan 1998, 5). Thus it is within one’s particular lifeworld that metaphor plays a most
prevalent role in moral deliberations. The reason for the focus on metaphor is that it:

unites reason and imagination. . . Metaphor is one of our most important tools
for trying to comprehend partially what cannot be comprehended totally: our
feelings, aesthetic experiences, moral practices, and spiritual awareness. These
endeavors of the imagination are not devoid of rationality; . . . they employ an
imaginative rationality. (Lakoff 2003, 193)

Patrick Heelan stresses the difference between science and the life of sensory experience
and thus contends that metaphor plays an essential role in our understanding of our lived
situation:

The role of metaphor needs to be studied; metaphor is as fundamental for the
hermeneutical perspective as literality is for traditional philosophies of science.
Since theory is mathematical and the lifeworld is empirical, it makes no sense
to predicate abstract and mathematical theoretical properties literally of the
lifeworld. (Heelan 1998, 18)

In other words, what Heelan is stating is that the world of science and the ‘lifeworld’ of
lived experience are incommensurable. It cannot be within the purview of Science,
which is mathematical, to explain lived experience, as they are two separate and distinct spheres or paradigms.

As was shown above, most of our thought is metaphorical but the question here is how does our metaphoric thought affect our moral deliberation and judgment. It is helpful to see what are considered to be the most basic metaphors that inform our judgments. Lakoff and Johnson contend that the metaphor of the ‘Nurturant Parent’ and the ‘Strict Parent’ may possibly hold this position. If one has been raised in a household wherein care and nurturing are paramount, that metaphor will most likely become the paradigm out of which we operate. We are most apt to be our ‘brother’s keepers’ and enter into various lifeworlds that promote those values. If, on the other hand, one was raised in a strict household where self dependence was stressed, our choices would more naturally follow that path. As an adult, one would expect others to ‘pull their own weight’ and to fend for themselves. Looking at our basic metaphoric concepts in this manner resembles the intuitive moral principles of Jonathan Haidt.

It is precisely at this point that cognitive science proves most helpful to our personal moral understanding. Most women of a certain age were raised within what they refer to as the ‘good girl syndrome.’ What they understand by this metaphor is that if a girl and eventually a woman behaves correctly, she will be taken care of. There is no need to go into all the conflict and anguish that living within that paradigm produced. What is most apparent, though, is the recognition that an over-riding metaphor will inform each and every one of our actions. If the cognitive scientists are able to elucidate for the general public these most common metaphors – such as strict or nurturant parent – the individual will more readily become aware of the unconscious motives out of which
he/she operates. Awareness of the metaphors brings to light our unconscious habitual dictates of making choices and the actions that ensue. It is indeed a difficult task to overcome the habit, but awareness – a ‘heightened awareness’ -- at least opens up an imaginative range of possibilities. Many scientists, such as Sam Harris, state that it is science alone that will define morality – the paths and choices that will promote flourishing of the individual. Once again, it must be stated that the study of morality does not lie within an isolated discipline such as science, but like all else must be relational, dialogical and contextual. Hence, the metaphors by which we live must be brought into light for it is only then that an individual has the possibility of acting with a modicum of freedom. Cognitive science will be helpful in bringing these metaphors to light and other disciplines may use this data efficaciously, but science alone cannot be responsible for formulating a morality. Once the inherited, instilled metaphors are brought into conscious awareness, it is possible to ‘choose’ to continue operating within this structure or our ‘window of freedom’ enables us to slowly and painstakingly create a new paradigm.

We are at a cross-roads today – a crisis – and it is the contention of this paper that moral decisions are being made under both the paradigm of Objectivism and a new paradigm of morality. As was stated, these two paradigms are incommensurable and great suffering, confusion and animosity arise when they are pitted against each other by well-meaning participants. Two examples are presented below in order to elucidate the incompatibility of these two paradigms; to illuminate some of the elements of the new morality; and mainly to show the importance that our personal lifeworlds or communities play in the emergence of the new moral code.
The Conflict of ‘Lifeworlds’

A main thesis of this paper is that we form our personal moral code not in isolation but rather within the group or lifeworld into which we have been born or have chosen to participate. Obviously, the first code of ethics is instilled in us by our parents, Church, school, and our particular cultural milieu. As adults, more choices are open to us to associate with a variety of groups, each possessing its own sets of principles and ethos. In some instances, however, major clashes arise, precipitated by distinct and divergent world-views of the groups to which we belong.

It is mainly differing world-views that precipitated the conflict between the hierarchy of the Roman Catholic Church and the Women Religious in America. There is also the Women Religious’ view of the self as evolving and their concept of truth as contextual – a dialogue within their community – that is anathema to Roman Catholic tradition, dogma and authoritative realm. The crisis between these paradigms was “occasioned by the “Apostolic Visitation of Institutes of Women Religious in the United States” that was launched by the Vatican in January 2009” (Schneiders 2011, loc. 63). According to Sandra Schneiders, the Vatican was presenting a “simple and straightforward case of the highest Church authority legitimately investigating some of its subordinates” (Ibid., Loc.82). However, the ‘lifeworld’ of Religious women did not hold themselves as ‘subordinates’; that is not how they now defined, or to be more precise, how they have re-defined themselves. According to Schneiders:

... post-conciliar women Religious have given birth, finally, to a new form of Religious Life ... that has been struggling into existence for some four hundred years and that I was calling “ministerial Religious Life. (Ibid., Loc. 158)
Thomas Kuhn speaks of the need for new definitions within the scope of a new paradigm due to the fact that meanings diverge and differ within each group. So, too, with the Religious. However, they are not merely re-defining terms – they are re-defining themselves and their community. But, what is the distinction between the traditional groups of Religious and the new ‘birth’ to which Schneiders refers? That is the most important question and is the source of the conflict between the Church hierarchy and the new paradigm of Religious women.

A brief history of the development of congregations of Religious women is given by Schneiders. She traces monasticism in the west to Benedict of Nursia (480-547) and cites this version of “Christian Religious Life (as) the predominant form in the Western Church from roughly 500 to 1500 CE” (Ibid., 23). However, by the sixteenth century the Dominicans and Franciscans, followed by the Jesuits and the Redemptorists, were breaking with the strict monastic model in order to better fulfill their apostolic work or ministry. They no longer remained within the enclosure of a monastery and their horarium was relativized in order to be at the service of others and to be present ‘in the world.’ The women of that day also wished to participate in this apostolic work but “women ran afoul of the requirement, absolutized by Boniface VIII . . . in 1298 and re-enforced by the Council of Trent, that all women Religious had to observe papal cloister under the pain of excommunication” (Ibid., 25). It does not get much clearer than that: Monasticism was the only “legitimate form of Religious Life for women” (Ibid.).

Thus, up through the sixteenth century the lifeworld of Religious women was completely under the auspices of the paradigm of the Church: it was subordinate and subject to laws promulgated by this authoritative group. There would be no conflict as
long as the rules and regulations of the Religious were approved by the Church and adhered to by the subordinates. However, as the male orders began their ministry in the world, the female counterparts vied to provide the same service. The subsequent centuries were a time of strife, confusion, repression, imprisonment, excommunication, for the “pioneers of women’s ministerial Religious Life” (Ibid., 25).

Finally, in 1900, Leo XIII, in the apostolic constitution *Conditae a Christo*, formally recognized as an authentic form of Religious Life non-cloistered “congregations devoted to works of the apostolate.” This was . . . the public recognition of a *fait accompli*, namely that over the course of nearly four hundred years a new form of women’s Religious Life had emerged, and that its validity . . . required acknowledgment by the institutional church. (Ibid., 26)

It is of interest that the redefinition, the ‘new form,’ came from within the women’s congregation itself and that it was only acknowledgement of the *fait accompli* that came from the Church. The ‘lifeworld’ was changed, transformed, from within. Sandra speaks of the ‘lived experience’ as what validates the congregations of today: “the living of the life precedes and must validate any theoretical treatment of it, whether such treatment comes from Church officials or theologians” (Ibid., Loc. 249). And, as will be shown, it was not only the movement to the outside world that changed, it was the attitude, dedication, and purposefulness of the members that was transformed. The male dominated hierarchy – indeed the role of authority itself – was being held in question. The new Religious were feeling the stirrings of autonomy and their mission of prophetic (Christ-like) ministry became paramount.

It was Vatican Council II that directed the Religious to “return to the biblical roots of their life and to the founding charisms . . . of their congregations. . . (and) to foster greater engagement of women Religious with the modern world” (Ibid., 28). Whereas
the Religious had been traditionally separated from the world and dedicated to a life of prayer and adoration, they were now to be ‘thrown into the world,’ dialoguing, and interacting with those whom they served.

It is clear that this new ministerial Religious Life is not a monastic life, but what are the essential elements within this new paradigm?

. . . only Christianity has developed an organic lifeform in which the whole of a person’s life is taken up, by profession of perpetual vows, to the exclusion of all other primary life commitments such as family or profession or project, into a love of God that expresses itself in complete self-giving to the neighbor. (Ibid., 34)

Thus, this lifeworld, this community, is referred to as a ‘lifeform’ by the Religious, because it is so central to their being. There could be no conciliation with other ‘worlds’ in which they participated, as this is their guiding light, this is what actually informs them. Most people exist and participate in several communities: familial, professional, communal, religious and others. At times there will be conflict and the individual must choose which ‘lifeworld’ will take precedence over all others. But, as Schneider is indicating, only Christianity has developed an organic ‘lifeform’ and no other paradigm can contest its’ predominance. We constantly shift the hierarchies of the ‘worlds’ in which we participate, but in this particular instance that is not possible. Adherence to this lifeform was and is their prime directive and all else is subjugated to it. Their actions, their principles, cannot be deemed a relative morality as it is the lifeform, not the individual that informs the moral code and the aims of the Religious. The Religious have made a commitment, they are dedicated to this work and their morality consists in conformity with their vows.
Religious, unlike the clergy, are not agents of the institutional Church as they make their vows “according to the Constitutions of their order, in the presence of their superiors, but only to God. This point has taken on great import in the present struggle as the Religious are forced to weigh the conflicting demands of their religious world and the Church. The Religious are defining themselves and they insist that the “absolutist power structure of the institutional Church is threatened by the growing consciousness of the People of God of their identity and mission as the Body of Christ” (Ibid., 49). For the Religious, “Jesus was the end of all domination systems, all systems of salvation by the power exercised by a few over the many” (Ibid., 47). The Religious harken back to Jesus as prophet, as teacher, as minister to the poor. They recognize that they have lost all vestiges of security and safety as they leave the walls of the convents behind them and walk into the uncertainty of the daily life of living in the world. They recognize that we are physical beings and must care for each other. They use Christ as their model and their vows as their guiding principles. They have found their voice and their power. Their life is not an easy one as Sandra Schneiders describes it:

One reason the prophetic vocation is so fraught with suffering and danger is that it is not a theoretical engagement with abstract or timeless issues. It is a practical engagement with concrete issues in the historical present. They (the Religious) are on the front lines in regard to homosexuality, inter-religious dialogue . . . intellectual freedom in theology . . . and numerous other issues that the Vatican would like to declare “settled,” or “closed,” or “forbidden” (Ibid., Loc., 420).

The above quote illuminates the setting of this group within the purview of hermeneutic philosophy and the Embodiment theories. They speak of dialogue, of historical or hermeneutical ontology, of engagement, of concrete issues, of uncertainty. There is a constant refiguring of the argument, a redefining of terms, even a redefining of
themselves. There is not Chomskyean correspondence, for the Religious speak of ‘lived experience.’ That is the essence of their message. There is an intense interpretation of the Bible and of the message of Christ to ‘Love one another.’ This is their dedication and this is the paradigm and the ‘lifeworld’ and ‘lifeform’ they have created.

It is not the intent in this paper to side with one ‘lifeworld’ or the other, but rather to show that each is operating out of its own distinct paradigm. The Vatican is relying on the institutional framework, wherein obedience is paramount. There is more of an objectivist, natural law mind set in which definition and rules are closed and confined. The morality is not a living, evolving and experienced event, as it is with the Religious, but rather it consists of a set of principles with all events fitting absolutely within that framework. The institution is dealing with universals whereas the Religious are living and experiencing prototypes, which can be expanded and reconfigured. For the Religious, the morality is organic, it grows and amends as the situation demands. The guidelines and the constraints of this morality are conscribed within their community, their vows and the Constitutions of their orders.

Yet, the dilemma and the anguish is that the Religious wish to participate fully in both ‘lifeworlds’ to which they belong – the Roman Catholic Church and their Religious Community. Both worlds are Christian and both are Catholic and should, or so both sides thought, work in tandem. But, they have come to a great divide. The women felt that they had the authority to be in the world and to explore, to teach, to guide and to lead. For them, the directives of Vatican II are paramount. They want to be obedient but they cannot and will not go against the dictates of their own ‘newly formed’ consciences.
The Religious distinguish two different understandings of obedience. “The hierarchal definition of obedience is total, blind, and absolute submission in thought, word, and deed, interiorly and exteriorly, to office authority” (Ibid 92). The prophetic definition is much broader and involved. It is:

. . . the prayerful listening for the will of God in all relevant “voices” and the search for that will in the “signs of the times,” followed by careful discernment and responsible speaking and acting out of that discernment for the good of real people in concrete situations.

(Ibid)

“Discernment based on attentive listening, not submission to the will of another, is the essence of prophetic obedience” (Ibid., 68).

The Religious ministerial communities were not prepared to struggle with the Church. They have completely redefined their own lifeworld and they have created a lifeform that wholly informs their personal lives. They now find themselves in conflict with the institutional Church of which they are members. They are looking for places to intersect, meaningful dialogue, ‘attentive listening,’ and Biblical validations, but thus far they have been unsuccessful. The strictures of the opposing paradigm do not permit their organic, concrete, dialogic, evolving mission to assert itself.

Thus, it can occur in one’s life that lifeworlds and the morality that is encompassed by each can conflict even though one’s participation in each has been freely chosen. This conflict presents one of the most deep and substantial struggles that a person can confront. The basic distinctions between the Objectivist and the Embodied world become paralyzing when conjoined in the lives of a community.
Conflict of Lifeworlds and Individuals

The situation above involved an incommensurable clash of two paradigms, a clash that immediately impacted all members of the group. The following situation does not involve a group but rather two individuals who come face to face with a similar conflict evidenced in one concrete moment. In the Washington Post of February of 2012, Michelle Boorstein wrote an article on the confrontation of two people who participated in two distinct ‘lifeworlds’ – the world of a Catholic gay woman and the world of a Catholic priest, a priest who felt he was enforcing the rules and regulations of his ministry. The woman, Barbara Johnson, was attending the funeral service of her mother. As she approached the altar rail to receive Communion, the priest “put his hand over the body of Christ and . . . said, “I can’t give you Communion because you live with a woman, and in the eyes of the church, that is a sin” (Boorstein, 2012). As far as Barbara Johnson was concerned, she and her partner, who were both Catholics and members of a gay community, were in a loving committed relationship and both were there to honor Barbara’s mother and to participate in this final tribute to her life.

One commentator cited Canon Law 915, contending that the priest was fully justified in his stance of refusing Communion to a ‘sinner.’ The Archdiocese officials, however, chose not to address the basic issues that separated the two lifeworlds but instead “they issued a short statement saying that the priest’s actions were against “policy” and that they would look into it as a personnel issue.” Thus, the officials tried to find some intersection between the two worlds, rather than focus on that which separated them irreparably. They ratcheted down the issue to questions of ‘policy’ and ‘personnel.’ Unlike the priest who appears to exist in and operate out of his one lifeworld, Barbara
Johnson exists in a multiplicity of lifeworlds, two of which are of import in this scenario: she lives in a lesbian community and she is a practicing Catholic. In this particular instance, in her view she was deprived of participation in her Catholic world because of the way she was born. From the perspective of the priest, Barbara was living a life that was inconsistent with the teachings of the Church and was therefore, not a member in good standing. The questions and problems associated with sexual orientation continue to plague the Church and no resolution appears to be forthcoming. Barbara, the woman involved in this situation, appears to have embraced both of these worlds: she was born gay, she did not choose to be gay; she believed in the dogmas of the Catholic Church and thus wanted to participate in the sacraments. At this time, there appears to be no means to resolve the conflict of the two lifeworlds.

In this case, the hierarchy of the Church tried to soften the conflict, but the two individuals stood firm in their condemnation of the other’s stance. How are we to resolve these conflicts between and among groups that invariably arise on the individual level? What guidelines can be offered to people who wish to lead ethical and productive lives and who themselves exist within two divergent lifeworlds?

This type of moral conundrum is more common than may be at first evident. Since in our modern world we participate in a variety of groups that contain their own particular world-view and set of standards, an individual may unintentionally be confronted with conflict. For example – the legal, medical, religious, and personal definition of ‘person’ or ‘fetus’ may be divergent and incommensurable within each group. An individual may be a person in good standing within several of these groups, each with their own communal definition of terms. There needs to be a way to find some
place of intersection if we are to continue as a growing, emergent society. A main thesis of this paper is that we as individuals are constantly making choices wherein we rate, or rank, the lifeworlds within which we operate. One community takes precedence over all others in each particular situation and we follow the guidelines inherent within that body. But, we have no moral compass to guide us at this point; we have no comprehensive understanding of the daily conflicts that arise in each of our lives. How do we set a value on each of our lifeworlds so that we are comfortable with our choices? The cognitive scientists have given us a new understanding of how our minds operate but our resultant options and actions need to be better grasped and explored.

Framing the Problem

Cognitive linguists have discovered that our terms and concepts get their meaning relative to larger frames or schemas that we develop to understand the kinds of situations we encounter. For any situation we encounter, there will be different possible framings by which we may understand it, each of which supports different ways of reasoning about that situation.

In morality, this means that there are multiple possible framings of any given situation, and hence different moral consequences depending on which way we frame the situation. However, there are limits to the ways we can frame situations, and so there are limits to the range of possible moral evaluations of a particular case. (Johnson 1997, 9-10)

“The Gay and Lesbian community has gone from Stonewall to the altar in two generations” (Von Drehle 2013, 17). Never before have we experienced such a sweeping shift in attitude in a compressed time span. What are the factors that brought our country from the atrocities of Stonewall in 1969 to the Supreme Court considering arguments for same-sex marriage in 2013?
The history of the gay community’s standing in society is a prime example of the recognition by the populace of the importance of ‘framing.’ In the early years of the debate there was an incontrovertible abyss separating two factions: the gay community’s desire to be recognized as legitimate and the popular belief that homosexuality was evil. To those within the two paradigms, the opposing principles were incommensurable. The ‘gay life style’ was to be silenced, obliterated before it did more harm to the very fabric of our society. The rules of our society were being dishonored and punishment was necessary. How is it that the argument has shifted over the years? What are the steps that have occurred that have moved our society ‘Beyond Objectivism’ and all that that philosophy entails and demands. The gay community has consciously ‘reframed’ its arguments and it has also reframed its own community’s reputation and that has led to the position today wherein the right to marry is discussed among many people in the United States minus the emotional hatred of yore. However, the ‘framing’ of the arguments is the tip of the iceberg and represents the final phase of a forty-year struggle. There are some earlier events that influenced and substantially altered societal attitudes.

In 1973 the APA declassified homosexuality as a mental disorder. Not only was homosexuality not to be looked upon as a mental disorder but within the next two decades the media was publicizing the fact that homosexuality could no longer be considered a choice. People were born gay or lesbian – that was essential to who they were – and their nature could not be changed despite rigid and sometimes brutal attempts to do so. People, who for their whole lives had suffered from taunts, jeers and attacks gradually were hearing that they were not intrinsically evil – a blight to be done away with. They could be responsible and participating members of society if they so chose.
However, these early years of ‘coming out’ were difficult, not only for the individuals themselves but for society at large. The earliest visions that the public experienced were demonstrative parades on Christopher Street and in Haight-Ashbury. Civic leaders, church prelates, families and society at large witnessed what they felt was the unraveling of the very fabric of our society. Free love abounded not only in the heterosexual community, but most prominently in the homosexual community.

A second event occurred in 1978, the birth of the first test-tube baby, requiring an expansion and re-defining of our age-old definitions. In the world of metaphysical objectivism there was no room for expansion. In that world concepts had a literal and universal meaning and could not encompass a non-prototypical event or action. But, what we experienced within these decades was the need to expand certain definitions – even the definition of conception. Artificial insemination, harvesting eggs, in vitro fertilization, surrogate mother, sperm donor – all these new terms entered our vocabulary and were prototypes within our concept of ‘conception.’ Conception and procreation of children were deemed the essence and the purview of traditional marriage but once conception itself was ‘redefined,’ the nature of marriage also came under scrutiny. As more and more couples married with no desire to procreate and people were committing themselves to each for their mutual benefit, goodness and happiness, procreation became less identified with heterosexual marriage. For those who desired to have children the introduction of a variety of methods available for conception opened the door for more couples and even for single parents. The definition of ‘family’ itself had expanded due to the number of ‘blended families’ filling our schools and churches: children of divorced and remarried parents and even children with two mothers or two fathers. This was a
social fact, not something that could be debated. And – the concept of ‘couple’ was new: it now included two people of the same sex. These non-prototypical categories could not be accommodated by the traditional objectivist categories and definitions – there was no place for this expansion that the real life inhabitants were experiencing and were demanding. This new open community, the gay community, was demanding that they be included in the Bill of Rights. They wanted discrimination based on sexual orientation to be illegal; equal employment; and – recognition of their union with each other. They wanted to be married.

A third event occurred in 1981 when researchers reported symptoms of AIDS in the gay community. The devastation caused by the AIDS epidemic drastically altered that community most affected by the disease. The apparent motto of “everything is permissible” no longer held as the community was forced to come together to care for sick and dying friends and lovers. The government was absent in those early years and this fledgling young community was forced to mature into a caring and responsible entity. In the midst of the gaunt and dying faces, the words ‘responsibility’ and ‘commitment’ were heard; stable relationships were forged; working for causes became commonplace. A major shift was taking place within the community itself. As in all societal shifts, this was not a universal occurrence. But, the seeds of a strong and vibrant LGBT society were sown.

As this society was gaining ground and the old definitions of marriage and conception were being amended by many, there was a strong impetus to regain or maintain the status quo. In 1996 the Defense of Marriage Act was signed by
President Clinton in response to this ground swell of concern. And “Don’t Ask, Don’t Tell” was still the law of the government until 2013. But, what is a society to do with a growing number of its citizens demanding equal rights and protection under the law?

Within the ontological hermeneutical philosophies a *dialogical method* is to be employed. There is a ‘listening’ that is necessary, a back and forth process. This method was not possible in the early stages of this movement as each faction stood firmly within its’ own paradigm, its own set of rules and concepts. However, within the decades of the 1990’s and into the new century another major shift occurred: the gay community and the heterosexual community began to interact. An instance of this occurred in a small resort town in Delaware as the housing bubble expanded and developers tried to take over the city by electing a mayor who would lead the way to abolishing restrictions that had protected the town from McMansions, casinos, ocean-front hotels etc. Concerned citizens came together under the banner of “Save Our City” and worked daily and tirelessly to combat the threat. They won. But, the unrealized victory was that gays and straights had won this victory together. They gathered night after night on a large porch and crafted letters to the editor, canvassed each home, made phone calls, stamped envelopes, brought out the vote and finally they celebrated their united victory together. They were friends. The dialogue began. The gay community wanted the same things as the straight community – “we all want the same thing, we all want to experience love and commitment” (Menaker 2013). While working together for a cause, the ‘differences’ were non-existent and the space was opened for dialogue. The groups were inter-acting and intersecting in a mode similar to Venn’s circles. The two groups had more in common than in separation: they wanted to protect their City; they wanted homes to be
cared for; they wanted trees to be saved; they wanted traffic to be controlled; they wanted the business district to thrive; they wanted a strong and vibrant community of friends and neighbors. All of these circles intersected with the one exception of sexual orientation. This happening was being repeated across the country as people began to experience their common bonds with those of a different orientation. ‘Integration’ took on a new meaning as social gatherings, city commissions, families, churches, and meetings, found friends and neighbors of ‘different persuasions’ sitting and working side by side.

However, there was much more at stake when the question of marriage took center stage in the last few years. Why was ‘civil union’ not enough? Why demand ‘marriage?’ The concept was anathema to most of the public – how has the change been effected so that in 2013 53% of the citizens approve of Gay Marriage?

The Defense of Marriage Act stated that marriage was between a man and a woman. However, the simple fact that the populace at large speaks of “same-sex marriage” indicates that the definition has already mutated from the objectivist paradigm into the non-prototypical realm of definitions and concepts. We have “marriage” and included within that category, there is “same-sex marriage” and “heterosexual marriage.” Social understanding has reached a new plateau.

The LGBT community had much at stake at this point. They were planning a strategy to procure the rights, privileges and responsibilities for their community. This was a community that had matured over the last forty years and as productive, caring and vibrant people they wanted equal rights. They did not come forward with one united argument that fits all situations and groups. They recognized that there were three quasi-distinct audiences to which they needed to appeal. Thus they framed their arguments to
intersect specifically with the various groups: the Courts; the Ballot initiatives; the grassroots.

In the Courts, mainly under the guidance of the former arch-rivals David Boies and Theodore Olson of Bush vs. Gore fame, the argument centered on civil rights, constitutionality and equal protection. In the Proposition 8 case before the Supreme Court, the argument was drafted to include the premise that the courts cannot take away a right that has already been conferred.

However, with the grassroots and ballot initiative the framers took another path. The guidelines for these arguments were framed by the national organization Freedom to Marry, and is entitled “Why Marriage Matters: The Research Behind the Message.”

Their extensive research has shown that the overwhelming response to the question “What does marriage mean to you?” evoked the following consensus:

Most Americans think that marriage is about commitment, love, and responsibility. . . (and) marriage was “a lifetime commitment between two people through good times and bad.” (Ibid.)

It was discovered that when the issue of same-sex marriage was put before the general populace framing it under the legal rights of individuals only exacerbated a divide between “how Americans in the middle see marriage and what they are hearing about why gay couples want to marry.” (Ibid.)

Although 72% of Oregonians said they, heterosexuals, married “to publicly acknowledge their love and commitment to each other” they, 42%, felt that gays and lesbians got married “for rights and benefits, like tax advantages, hospital visitation, or sharing a spouse’s pension.” Thus, these practical matters could be achieved and rights could be protected by promoting domestic partnerships and civil unions. So, despite
what was being argued in the courts, the following guidelines and talking points were set up so that there could be an intersection of circles within the community at large.

- Marriage matters to gay people in similar ways that it matters to everyone. Gay and lesbian couples want to get married to make a lifetime commitment to the person they love and to protect their families.

- Marriage is one of the few times where people make a public promise of love and responsibility for each other and ask our friends and family to hold us accountable.

- Gay and lesbian couples may seem different from straight couples, but we all share similar values – like the importance of family and helping out our neighbors; worries . . . and hopes and dreams . . .

- In short, when we speak to the values we all hold in common around marriage, we can help more Americans see that gay and lesbian couples understand what marriage is truly about: love, commitment, and the human desire to care for one’s family. (Why Marriage Matters)

The gay community could not have succeeded in the intersection with and approval of society at large within the objectivist framework. It was not possible if one relied on rules, regulations and limitations. Framing and reframing the situations were needed. Both the gay and straight communities embraced the principles inherent in hermeneutical ontology, most probably unknowingly. The thesis of this paper is that because we are embodied we form our categories in a certain manner. We do not simply form abstract concepts and then try to fit any situation within that format. Our basic building block of knowledge is to form categories, but these categories are not rigid and limiting. Rather, we categorize things if they intersect in some ways. We look for intersecting points and act accordingly. Thus, the gay community looked at the various and varied structures or framings and tailored their presentations to more easily intersect with the group or world they were addressing.

What is apparent in this phenomenon in which we are participants, is the role of
dialogue, framing, experience, prototypes, non-prototypes, definitions, imagination, intersections, play, and listening. The inclusion of the gay community is occurring on a daily basis – within families, within schools, within churches (some), within government. The question of marriage is being decided in the courts but the definition of marriage has already been altered: it now includes the term ‘gay marriage’ as one component. The topic of gay marriage has been one of the moral conundrums of our age and it is only by framing and reframing the situation that conciliation is occurring. “Knowing that there will always be multiple framings of any situation is also necessary, if we are to appreciate the nonabsolute character of our moral understanding” (Johnson 1993, 192). First and foremost though, the gay community succeeded in reframing the essence of their own ‘world,’ – the gay community. Then, they successfully framed an argument based on civil rights to the legal community. However, this argument led the populace at large to contend that the existing ‘civil unions’ would provide the benefits the community claimed as theirs. However, the gay community wanted a different kind of equality – not just legal. Their desire was to be recognized as full members of society and to publically proclaim their love and commitment. This was a frame that the contemporary world understood and thus with the two separate and distinct framings of the same issue, the gay community has effected a majority change of attitude in the United States in an unheard of limited period of time. The arguments and the reframing have definitely been offered outside of the traditional moral folk theories. It is here that one sees the possibilities that are opening up when imagination, listening and new metaphors are employed.

It is important to step back and look at what has occurred in the above scenario
that resulted in the inclusion of rights and rituals in the gay community. It is at once obvious that we are not dealing here, for the majority of the population, with absolute moral dictates. Our sense of morality is evolving as we evolve and once homosexuality was deemed by the psychiatric society not to be a ‘disease’ but rather was inherent within certain members of our society, the debate and dialogue changed. Within the ontological hermeneutical framework, dialogue -- the back and forth -- is most important, for that is the method that is employed to come to a consensus of the ‘truth.’ We are not looking for absolutes rather we are looking for what is practical within the framework of the present situation. Political leaders are cautioned that they do not want to be “on the wrong side of history.” What does that mean? It seems to mean that our society as a whole is becoming more inclusive and that we are not making moral decisions based on a universal dictum of what is ‘right’ and what is ‘wrong,’ but rather we as a group are making practical decisions. The basic facts, as put forth by the famed lawyers, Boies and Olson, are that there is a large segment of our population that has been denied certain civil rights and privileges that others enjoy. Our sense of inclusion today is based on the principle of respect for the conscious decisions of others with whom we may agree or disagree but who have access to the same rights and privileges. This is not to be construed as a morality wherein ‘anything goes,’ for as has been iterated above, we have a basic core of absolute principles which forms the cornerstone of our morality. But, in non-prototypical cases, we cannot rely on absolutes, but we look to the evolving and expanding and imaginative methods of inclusion. In this realm our morality may be considered to be pragmatic: what principles and laws work best for the society. But, it is not just pure pragmatism that is at work here, for there is an unconscious recognition that
we are dealing with the reality of an evolving populace. These new principles and the ensuing laws do not come about easily but are negotiated within the dialogical communities involved. It is here that we need to find guidelines to assist the communities as they tread their way through uncharted waters.

Our Everyday Choices

Within the confines of the traditional western Moral law folk Theory, there is a universal concept – a law – and any individual action is to be considered within that absolute structure. There is a process from the universal law to the particular action. The second-generation cognitive scientists have discovered that that is not the way that our minds operate and that process does not come near to explaining who we are. The cognitive scientists have tested new theories of cognition that indicate that much of our thought is unconscious and that we form concepts, not always by means of abstraction, but rather by recognizing various interlocking relationships. Thus, the age-old theory that we abstract a universal essence and then we recognize the particulars within that grouping, no longer holds sway as our prime method of knowledge. Therefore, when we look into how it is that we make moral choices, the ‘who we are’ in the context has changed. A universal law that is meant to inform our individual choice and action is not applicable in non-prototypical situations, but it does hold true for the stable core of a morality – the prototypical situations. Thus, once again we see this distinction between the prototypical and non-prototypical situations. Traditional moral precepts can easily direct our actions in a typical situation and universal laws are applicable. But, in non-prototypical situations there is recognition of the historical and evolutionary character of
the event. In this paradigm of a ‘new, expansive morality’ the individual needs to take much more responsibility and must also rely on his/her creative, imaginative abilities. The process for today’s individual, who exists in a world that is beyond both Objectivism and Relativism, is a much more complicated endeavor. It is certainly not simply a need to follow instructions, to obey the rules, to listen to the dictates of others. Each choice, each action defines the priorities we place on the lifeworlds in which we participate and which change and reassemble themselves as we develop and grow. We are continually creating and amending our moral code, but not in a purely relativistic manner, but rather within our relational, ontological, evolutionary participation within the stated community.

Thus, there are several components involved in any choice -- no matter how insignificant that choice may appear -- that we make:

1. We exist and participate in many lifeworlds; within differing paradigms.

2. We have the ability to place a value on each of these lifeworlds at each moment of our lives;

3. We can imagine, or create, varying scenarios, various outcomes depending on the situation;

4. We recognize the responsibilities we hold in each of these lifeworlds;

5. We make our choice after deliberation and consideration of the effects that will occur in each and to each of these differing groups.

The most common example that is given to show the complexity involved as we approach a decision within the Enactivist Theory as opposed to an Objectivist Theory is the question of birth control or abortion. The worlds of medicine, of religion, of feminism, and the differing life styles in which an individual may exist are shown to offer differing information, differing moral standards, differing definitions. The individual must then weigh the value that he/she places on these opposing communities at this
particular time, and choose which lifeworld to which to adhere. Of course today when dealing with the issue of abortion and in some instances, with birth control, we come face to face with the laws of the state. We live in an era when social issues are being debated in the courtroom and our freedom to choose among our varied lifeworlds will be curtailed depending on the laws of the state.

We face moral choices everyday, in each word and deed. How do we make these choices? The Moral Folk Theory offers us a set of principles under which each and every event is to be situated. Thus, if we can place the dilemma under the proper ‘commandment’ our course of action will be clear. However, although that may be true for many universal dictums, it is not pertinent for much of our daily lives. Our choices for the most part are not between a good and an evil. We do not daily contend with universal, life altering choices, but rather with what arises within our individual lives. It is the contention of this paper that we make these choices based on dialogical deliberation within each of our lifeworlds. Depending on the context and the particular circumstances we will follow the precepts of one lifeworld as opposed to the others in which we participate. This provisional ‘hierarchal’ position of the lifeworld constantly undergoes change and transformation. Each event must be considered within the context of the situation and our relationship to the particular community.

It is obvious that in our personal life, thoughts, and actions, we are not dealing with universal or purely objective precepts. As we look at society today we see that there are conflicts among differing lifestyles and lifeworlds. No universal law can resolve these conflicts. We are speaking here of practical reasoning and judgment and our western history is replete with their importance. The recognition of differing narratives is
not new to us. Jean-Francois Lyotard (1924-1998) in his 1984 book *The Postmodern Condition: A Report on Knowledge,* stated that the ‘grand narratives’ that comprised the universal theories of our Western culture have lost all credibility for today authoritative pronouncements are looked upon with disdain. We are most comfortable with the ‘petit narrative,’ the narrative of our individual lifeworlds, which we form through deliberative dialogue and judgment. Hans-Georg Gadamer (1900-2002) links his ontological hermeneutics to the practical philosophy of Aristotle: *praxis* – the way of life and *phronesis* – practical thought. There are traditionally three elements in hermeneutics – understanding, interpretation and application – and according to Gadamer they are internally related for every act of understanding must involve interpretation and interpretation itself involves application. Gadamer has linked Aristotle to this hermeneutics in the moment of ‘application’ in the act of understanding and it is Aristotle’s analysis of practical knowledge, or *phronesis,* that allows us to understand application in hermeneutics (Bernstein 1983, 38-40). Thus, we see that many in our modern society look at an event, a lived experience, within a context and that it is practical, contextual, reasoning and not universal dictum that allows for our choice or application to the problem.

As was stated above, most of our everyday choices are non-prototypical in that they do not fit within one lifeworld for the simple reason that we exist in a multitude of over-lapping lifeworlds. Also, most of our choices are not deemed ‘monumental,’ but are comprised of simple things that we encounter as we move through our lives. Many of these choices present themselves as two goods and thus we choose the one that seems most appropriate; other choices are in a morally gray area and we choose knowing that
the outcome will not and cannot be optimum. We do know that by choosing one thing we have limited our options and in the process we may feel ourselves deprived or others whom we love may suffer consequences. Our world is fraught with contingencies and ambiguities and thus we are never certain what an outcome will be. Alas, this is the world as we experience it. However, we continue to make endless choices for even our decision not to choose is itself a choice. It is with each choice that we develop our identity as a Person – this is the nature of the ever-evolving Self.

Keeping all of this uncertainty in mind, I propose to offer a benign, patently idealized everyday real life situation to consider in order to elucidate the elements and the ‘lifeworlds’ that are frequently present in making choices and in this case, the choices are between two goods. An adult, parent of several grown married children, determines to pursue a new path at this stage of his life and attends graduate school. In the course of his studies he finds that one semester he can commit to an inordinately heavy schedule that includes two courses of import to his area of study. The commitment is made: the priority for the next several months will be his ‘university world’ and also his ‘personal world,’ in that he realizes that he must take care of himself and reduce stress in all areas of his life in order to accomplish his committed task. To accomplish this he has put his ‘social world,’ his ‘family world,’ his ‘hobby world,’ his ‘cultural world,’ his ‘political world,’ etc. in abeyance for this semester and determined that his energies and choices will be made within the framework of his ‘university world’s’ demands and responsibilities. He is quite clear in his commitment and prepared to devote the next few months to his intellectual endeavor.
A few weeks into the semester he receives a call from one of his out of town adult children asking him to please come to be present for the presentation of an award the son is receiving. The answer to this request is quite clear within the framework of Objectivism: a commitment has been made for good and true reasons and therefore it must be honored. The answer to the son is that it is impossible to come, due to prior commitments.

However, when this same set of circumstances is viewed within the framework of the Enactivist Theory a new set of possibilities arises. The facts are the same: answering the son’s request will involve three days away from the university; a plane trip; interrupted study schedule; fatigue; etc. There is virtually no way to make up for this lost time within this one semester due to the extensive study pressures that have been incurred.

Therefore, within his ‘university world’ and his ‘personal world,’ there are negative consequences. Now, he must ‘weigh’ the various domains of his life. He looks at his ‘family world’ and the responsibilities and goals therein. It is at once obvious that this is not an emergency – his presence is not needed in that sense. But the fact is that he feels an angst, an uneasiness with his ‘no’ response. The son knew of his father’s commitment, yet he made the request. It is here that deliberation – Aristotle’s *phronesis* and hermeneutic ontology - is employed. The father now weighs the import of the two ‘worlds’ within which he participates. How does the father look at his responsibilities within the familial circle? He has ‘been there’ for his son in his life and he has conveyed this premise to his son. But, does that mean to ‘be there’ when there is a tragedy, a need, a deprivation? Or, does that mean also that one is there for the good events, the awards,
the happiness? The father still considers himself a role model for his children, an obligation he has willingly and happily incurred. What message is he giving with his decision to say ‘no?’ He is giving the message that one stays true to one’s commitments and that message the father deems is honorable. But, what if he plays with this some more? Does he want the son to have the message that the father is faithful to his commitments, or is it possible that he wants the son to be able to know that his father ‘showed up’ when it was important to the son? In this situation that is somewhat akin to Kierkegaard’s Ethical man, the father chooses to raise the precepts of his ‘family world’ to the prime position in a provisional ‘hierarchy’ of ‘worlds’ and to take responsibility for his role as father, as model, over and above the role and responsibility of his ‘university world.’ This is referred to as ‘a provisional hierarchy of worlds’ because within a differing context the ‘hierarchy’ could be reversed.

What factors are involved in this situation? First of all the father realizes that choices, his choices, are not made in a vacuum. It is an ontological, relational world in which he and we live. Each choice affects not only his world but all those who are members of his world. His responsibility is not to an abstract universal principle: Thou must honor thy commitments but rather to a real life principle: Thou must be there for one’s children. Rather at times, he must step beyond the world of absolutes, into the real world that he inhabits. He must ‘play’ with all the possibilities; he must temporarily rank his worlds; he must take full responsibility for looking at the scenarios that could and would unfold given his decision. In very simple human terms: does he want to be a father who is known by his son as one who followed his commitments and earned his degree with honors? or does he want to be a father who is known by his son as one who
‘showed up’ despite obstacles? He, the father, plays all the varying roles in making his choice. Not only is he free to do so -- it is his responsibility to do so.

This scenario continues. The father chooses the ‘family world’ and deems it of greater significance at that moment. He happily attends the award ceremony. However, as life would have it, this event is not the only disruption to his well-intentioned plans for the semester. Another child presents the father with a quite similar dilemma. He is asked to, once again, travel to be in attendance at a ‘happy and important event’ in the life of another child. The same process ensues and the father, once again, comes down on the side of his family. However, at this point, it is obvious to the father that he cannot under these new circumstances complete the work he has outlined for himself. There are now serious consequences to his actions. He knows that he has been responsible to the best of his ability to the work that he has outlined for this semester. However, though he has been able to keep up with the weekly work assignments by working on the plane and in hotel rooms late into the night, he knows that he has ‘lost’ valuable time as far as the required papers for his two courses are concerned. He must look at the present situation anew? How can he be faithful to his commitment? What are the options? What is his relationship to the work, to his professors, to the two required papers? How does he act within this new situation and what opportunities can he create?

Within the constrictions of the Objectivist paradigm, the father has not been faithful to his commitment and his class work will now suffer. There is no way that he can complete the research work within the allotted time frame. He did not follow the dictates of the Objectivist Moral Law Theory and now he has failed in honoring his original commitment.
However, in the ontological framework possibilities still abound. There is not just one way of seeing things within this paradigm. All things are related one to the other; there are intersecting circles within each of his worlds. Nothing stands in isolation but rather must be seen only in its’ relationships. That is all that makes sense within this world.

Thus, in this new way of seeing, the two classes, the two professors, the father are not separated entities but rather they each stand in relationship to the other and each only gains its definition and authenticity within that relationship. Therefore, the father now faces a whole new series of relationships and the responsibilities therein. His responsibility to his classes is not diminished because of the choices he has made in reference to his family. Rather, his responsibility now need involve his imaginative and creative powers. The question has come down to the two scholarly papers that are due within a prescribed time framework.

The father obviously has to write two separate papers for his courses – that is a given ingredient. However, when he looks at the complete project – his overall purpose in enrolling in this graduate program – he knows that these are not two independent, separate courses. All his courses are directed toward the writing of his dissertation and there is, or should be, a relationship between all the courses that he is pursuing. He is not alone in this endeavor but rather he stands in relationship to the professors and to the coursework. Now that he looks at the conundrum in this new light, a question arises: is there an intersection between these two courses? Where can he find the circles of interest that overlap, that intersect? Since all his courses are fashioned in a way to enhance his doctoral study, there must be an intersection and it is on this point that he focuses his
imagination. He is able to intersect the two courses at several points. He then realizes
that although he needs to compose two separate papers, he could consolidate the research.
He would not be compromising his studies for either class, but rather would enhance his
in-depth knowledge of the topic by means of the two papers. He meets with the
professors to discuss his dilemma and his subsequent findings and to give each the
outline of his proposed work. He recognizes that he is honoring the relationship and
intersection of himself and the professors, the proposed work of the dissertation, and the
requirements of the individual courses. He is not shirking his duties; he is not defeated
by his moral ranking of his individual ‘worlds’ and he is employing a relational, in depth
study of his topic. He is able, within his conversations with the professors – the back and
forth dialogue -- to create new lines of intersections and new avenues of interest. He has
managed to enrich his initial studies by means of his new insights into the themes of his
proposed dissertation and he has been able to streamline his research time. He has been
true to his original commitment; it is simply that the commitment has evolved into a more
creative and more substantive undertaking.

The above idealized example is indicative, in a detailed manner, of many of the
choices that one makes in the daily life. The choices are not simply either/or but rather
an existential recognition of the various lifeworlds in which we participate. The
provisional ‘ranking’ of these worlds oscillates constantly. This type of provisional
ranking, of dialoging with oneself and with others, of playing out varied scenarios, holds
ture when one is looking at two goods or even when one knows that neither choice will
produce an optimum outcome. We are continually re-ranking our priorities and hence,
the responsibilities that flow thereof. When we begin to look at any basis of morality
within the framework of Embodied Realism, the role, provisional ranking and responsibilities within the chosen lifeworld need to be considered. It is to be noted again that we are not dealing with Absolute Truth but rather with truth as mediated within a stated community.

Thus, we see from the example above that it is the moral responsibility of the individual to literally ‘walk around the problem.’ There is no easy answer in today’s society in which we live. For instance, in this idealized version the father is able to reconcile the lifeworlds in which he participates. We are well aware that we participate in many organizations, many lifeworlds, and each demands our attention and respect. As was seen in this instance, the father needed to look at the responsibility – and also the emotion and joy – which held him to each world. Also, within our daily choices it is important to be able to recognize the paradigms under which we are ‘programmed’ to operate. For instance, it makes a difference in our choices if we adhere to the paradigm of the Nurturant Parent or the Strict Parent. The above scenario would have unfolded along divergent lines depending on which paradigm had been entrenched in our neuronal make-up. The father needed to dialogue – albeit with himself at the beginning and later with the professors in his intellectual community. There needed to be the back and forth to bring into existence all of the factors involved in this scenario. The father did not stand alone in any of the process for he was intimately related to each participant and to his prospective work. He was able to look into the past at decisions and relationships that were forged and to look into the future to see the effects that would or could occur. He needed to imagine various and varied scenarios unfolding, work completed or left undone, disappointments to himself and to his children, the toll travel would make on his
body. The father also needed to employ the practical judgment and reasoning of his professors for he was not alone in any aspect of this endeavor. All of this is true in this scenario but in our life experience things do not normally work out this smoothly. We are faced with the dilemma of sacrifice, of disappointment, of inflicting harm or hurt on another. So much could have gone awry in the given idealized scenario that would have thwarted the father’s goals. He was able to satisfy both lifeworlds but that is usually not the case – there is usually the sacrifice of the principles of one lifeworld to the principles of the other. It is here that the ‘provisional ranking’ of each community takes on such import. This was seen in the case above of the nuns and also in the case of the gay woman and the priest. In each of those instances there was a choice made for a lifeworld that involved a sacrifice, a diminishment of another lifeworld. It is precisely within the ambiguity of the provisional ranking of our worlds that guidance is sorely needed.

However, this ‘new morality’ has illuminated that fact that we deal not only with prototypical cases, wherein traditional moral theory has provided guidance, but that many choices we face are non-prototypical. Also, within this paradigm one sees himself/herself not as alienated but rather as intimately united with others and with the world. The responsibility is great; our window of free choice is limited but can be enhanced by our imaginative and creative powers; recognition of the paradigms under which we operate can illuminate our immediate responses to situations; we must choose the lifeworlds within which we accept certain precepts with great care and deliberation; we must act to the fullest of our evolving self.
CHAPTER 8
PROVISIONAL CONCLUSIONS

This paper is written at a moment in time and is meant to express the most prominent and divergent threads woven into today’s fabric of thought. The contribution of the physical sciences to our present day body of knowledge is of such importance that a new paradigm of the human being has emerged. The underlying thesis of this paper is that the theory of Objectivism, the hallmark of the natural sciences, can only offer an incomplete view of man and that the new theories, most predominately Embodied Realism, based on hermeneutic ontology give us the most complete context within which to understand the human being and to offer guidance for practical reasoning and moral judgment. The basic premise of the Embodied Realists is that there is no transcendent or disembodied mind and that all thought and meaning is dependent on the body, brain and culture. In other words, in contrast to both traditional Western philosophy and the first generation cognitive scientists, this new cadre of cognitive scientists assert that we are evolved, embedded and embodied. The Poet Laureate Billy Collins expresses the import of this tenet of embodiment clearly in his poem, *Purity*:

My favorite time to write is in the late afternoon, weekdays, particularly Wednesdays,
This is how I go about it:
I take a fresh pot of tea into my study and close the door.
Then I remove my clothes and leave them in a pile as if I had melted to death and my legacy consisted of only a white shirt, a pair of pants and a pot of cold tea.
Then I remove my flesh and hang it over a chair.
I slide off my bones like a silken garment.
I do this so that what I write will be pure, completely rinsed of the carnal, uncontaminated by the preoccupations of the body. . .
Afterward, I reward myself by going for a drive at sunset. I replace my organs and slip back into my flesh and clothes. Then I back the car out of the garage and speed through woods on winding country roads, passing stone walls, farmhouses, and frozen ponds, all perfectly arranged like words in a famous sonnet.

“It is our organic flesh and blood, our structural bones, the ancient rhythms of our internal organs, and the pulsing flow of our emotions that give us whatever meaning we can find and that shape our very thinking” (Johnson 2007, 3). This disembodiment is precisely what has been asked of us by the physical sciences for the last centuries. It is now in our day that the scientists have come, through the testing of our cognitive abilities, to demand that we consider each and every event within a context; that all be seen in relationship to the body and to the world in which we participate. There is no such thing as an objective, separate world for it is within this world that we have evolved and developed.

Once we move into the hermeneutic ontological paradigm the whole story changes. We are no longer alienated, bifurcated beings. The definition of who we are has been reframed: We are evolved mammals with a body/mind. We do not have separate faculties but rather all our abilities have emerged through our physical systems. Yes, there are questions of gaps and much remains in a cloud of unknowing for us. Our natural sciences may need to be expanded and refined to account for our consciousness but the fact remains that who we are is due to all that preceded us.

Also, within this new paradigm our sense of morality has been altered. It has been shown above that most of our thought is body based and that we form concepts not by abstraction but by intersecting similarities. Thus, we speak of prototypes as opposed
to universals. We reserve a place for the universals in our moral judgments when dealing with prototypical situations but that does not assist us in non-prototypical situations. As Mark Johnson states:

> People who fall back on rules and moral laws are people who are either afraid of the indeterminacy and contingency of life, or morally obtuse, or both. Rule-mongering is a sign of moral failure, and it cannot do what it promises, namely, to tell us how to act in every situation. (Johnson 1993, 215)

Although in non-prototypical moral situations we cannot rely on rules or universals that does not mean or infer that morality is relative. The guidelines are mediated within the lifeworld in which we participate. It is these lifeworlds that are of the utmost importance.

If we are to accept the basic precepts of Embodied Realism – our interconnectivity and relationality – our actions and our instructions of the young must undergo reframing. There are some signs that corporations and educators are aware that all learning and creativity is not best suited to sitting at a desk for long hours. Many schools are holding classes outside, taking children on nature walks, acting out lessons about bullying and sexual harassment all in an effort to involve the embodied being in the learning process. In the early days in Silicon Valley one would see the ‘computer geeks’ playing basketball in the corridors and lounging in in-house coffee bars. Dialogue and the back and forth play of ideas within this lifeworld was the norm. Several universities in the United States have initiated Liberal Studies Programs, the essence of which is inter-disciplinary studies. All of these initiatives stress correlation and relationship whether that be of subject matter or of the human and the world. There is no reality, no truth, to any thing or being or thought in isolation.
What is next in the evolutionary process? We know not. But what is apparent is that we are experimenting with different ways of thought convergence. Of course the world-wide-web is the most obvious example of this convergence of thought. We have all experienced the best of what the web offers – one can see a lecture, opera, terrorist attack as it occurs on the other side of the world. At the same time, we experience the most banal offerings of YouTube and FaceBook.

In December of 2012, by means of the internet and cable TV, we experienced the Sandy Hook massacre. The details and the horror of the story ‘went viral.’ In that one week, republicans, democrats, protestants, Catholics and muslims, corporate leaders, first responders, citizens – young and old, Mayors, Governors and Senators, teachers and administrators, sports figures and coaches, and the President of the United States, agreed with one voice that “Enough is enough.” It is time to act. What does that mean? It is that these disparate groups decided to suspend whatever belief held them to an allegiance of their own worldview and its dictates, and to join in a ‘higher,’ deemed necessary, coalescence. The end of this story is well known – another faction arose threatening sanctions and the withholding of financial support and the moment of unity dissipated.

But the important factor here is that it is necessary to look at the scope of our morality. In times past, our lifeworlds were contained – family, friends, work, school and community within a certain defined area. Now however, through the extension of our beings into the entire world through available media, our responsibility and hence our moral standards are expanded. We are one world and that cannot be denied. Thus, it is incumbent upon us to stretch our minds and imaginative abilities and to formulate guidelines for behavior towards all who inhabit our planet. Thus, in this new era, with a
new conception of man, it behooves us to become aware of our own make up and being and to act accordingly. “We are the World.”

We are now faced with a new definition of man and his role in the world and we find ourselves at the earliest beginnings of attempting to develop our sense of responsibility. How can we, who are an integral part of the evolutionary process, have any responsibility for what occurs and more importantly, for what may occur? The answer lies in the fact that we are the first group on the evolutionary scale that is aware of the evolving process in which we participate. We have a choice: we can work with evolution or we can impede it. How do we know the answers? In truth, we do not but we have begun to develop a consciousness about the planet we inhabit and the damage we are doing to its natural survival and to the health and well-being of its inhabitants. We are all aware of the struggles that are ensuing today concerning ‘our world.’ We do know that we cannot exist in isolation and that our whole evolutionary history, despite the warlike conflicts that have always existed among and between animals, tribes and ‘civilized’ men, is dependent on peaceful coexistence and respect for the other because that leads to our own wellbeing and thriving. We have been ‘thrown’ once again into the world but this time the world is ‘global’ for we have, through the development of our technical media, brought the world into our own homes and into our psyches.

Thus, we see the beginning, the minimal standards, of a new morality. It must include the fact that we are connected, relational and interdependent and thus we are responsible in some way for the communities in which we participate. We must choose our lifeworlds with a carefulness and recognition of the import of each of these lifeworlds. Thus it is within these communities that we must function and perform to the
best of our abilities through the dialogical back and forth process working through to the provisional truth as best as we deem possible. We are animals, but what a history and narrative we possess! We do have the ability to painstakingly change and develop our own ‘world,’ mindful that our world is connected to all other worlds and that is the least and the most that we can do. We stand on a threshold today with conflicting and warring factors and factions but with knowledge of our true evolving selves we have the capability of guiding our own communities. Yes, we need to explore these communities, these lifeworlds, and offer guidance and direction but we have now a provisional foundation upon which to do so. We are not alone, for we are one with each other and with all that is.

_Provisional Epilogue_

I am aware that everything within this paper can and should be modified by the term ‘provisional.’ Yes, we have reached a new plateau in the sciences, especially in the burgeoning fields of evolutionary biology and cognitive and neuroscience. This second generation of scientists has brought us to a new understanding of our contextual existence, of our interconnectedness to all that is. We have been able to move from the paradigm of metaphysics and all that it entails, to an ontological hermeneutic paradigm. It is true that this shift gives us a completely different perspective on our own lives and our worlds. This paper is a ‘moment in time,’ – provisional because we know that new information or insight may alter any of these latest theories. However, after personally expending time and effort on these new scientific studies and the myriad of theories that are flowing from this data, I have come to realize that science has provided us with much
information about the behavior of man – the physical source of his actions and reactions – but very little on our experience. What science has not provided is insight into the essence and the nature of the human being whose behavior is being addressed. It is true, as Sam Harris states it, that we have ‘flown the perch of evolution’ – but look how far we have flown that perch with its focus on survival. Yes, we can agree with Johnson and Lakoff that we are embodied; we can agree with Turner’s double scope blending; we can agree with Gallagher that we are embedded. But this is simply the foundation – a provisional foundation -- upon which we can legitimately experience ourselves.

There is only so far that one can proceed and theorize based on this new foundation and honoring the confines of this paper. However, it seems to me that we experience and desire more than simply the ‘flourishing’ promoted by Harris and Pinker. We experience a sense of Personhood. Many scientists deem that pure illusion on our part, but there is a possibility that a ‘Self’ has emerged and I contend that this is one more ‘leap’ in the evolutionary plane.

The question then becomes: What is our experience of the self? The answer is beyond the realm of science. We are evolved, embodied and embedded – and with our emerging Self there is an identity, our personal identity and that means that we are historically situated, linguistically constituted, relational and emergent in all of our capabilities and activities. (Ambrosio 2013) Although we are embodied, which means that our faculties are not transcendent, we do have ideas or experience of Transcendence. How is that possible? The most that the second generation can tell us of the self is that there is agency and there is responsibility. However, we know from our own experience that we seek meaning, that we attribute meaning to all our experiences, and that for many
there is a drive to live a meaningful life. For many people it is the meaning that they create that gives them dignity as a human being. A life without meaning is empty and seemingly pointless. Have we made another leap? Is there something transcendent that we are seeking? The scientists would trace this desire to neuronal firings in the brain and we know not the truth of their statements any more than I know the truth of my thesis. But, that sense of Personhood, of dignity, of searching is deep within us. I can only attest to my own experience and to that of the lifeworlds in which I participate, which are replete with a sense of the dignity and responsibility of the Person and an over-riding search for meaning and a yearning for the Transcendent. I, personally, am left with a sense of awe at the very existence of the embodied, embedded, evolved and evolving human being. I am aware that we know very little about ourselves and the universe: as Koch stated above only 4% of the energy of the universe comprises the world we know. So, we truly stand in a cloud of unknowing and yet we have the ability to stretch our minds and our imagination beyond our embodiment and to reach for the stars.

In conclusion I would state that there is a new provisional expanded definition of man: evolved and evolving, embodied, embedded, having forged a Person with an identity, with dignity and with meaning and shrouded in a veil of Mystery. Thomas Metzinger’s words clearly fit this new definition:

There is a new image of man emerging, an image that will dramatically contradict almost all traditional images man has made of himself in the course of his cultural history.


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