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National College of Art & Design Faculty of Fine Art, Department of Sculpture

A Whole, More Than the Sum of the Parts

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ABSTRACT



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In the opening chapter I will discuss the structure of the early Greek society. I will also look at the diverging strains of Greek Philosophy: the analytical Apollonian mode and the intuitive Dionysian mode.

The second chapter will deal with the function of geometry and numbers in the construction of metaphysical paradigms.

The transformation of knowledge as a means of understanding to a tool of impowerment is the subject of the third chapter. This chapter deals with the implications of the age of enlightenment and scientific revolution.

The final chapter discusses the re-evaluation of the modernist paradigm in relation to new perceptions of reality. Creative participation in a living world is advocated as a means of societal evolution.

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INTRODUCTION



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The idea that the universe is a creative whole system is an enduring concept that transcends both cultural and historical boundaries. This has been the prevalent view of the order of the universe in cultures spanning the globe throughout time. In science and life a whole system must have an essential unity between its constituent parts. The unity of the whole depends on a harmonious interplay between the parts. The incorporation variety within the whole enables a diversity to operate with the whole. Through the interconnection and interrelation of the parts a whole or unity is formed. The course of a whole is informed by a reciprocal process, whereby the smallest part influences the largest, through a network of interconnections. This process also works in reverse, where the parts are receptive to the influence of the whole. The part is a microcosm of the whole: the whole is a macrocosm of the part. A whole implies completion, it denotes resolution.

A sense of the creative unity of the world has been lost to western society since the transformation of perception that began in the enlightenment period. This loss has led to a destructive consumptive society which is patriarchal, individualist and alienating. The ethical constraints of a whole system have been removed, leading to the critical degradation of the environment. The disconnection that arises from the loss of a sense of the creative whole is the principal vector of disenchantment which consumes the society that spawns it. Previous to the enlightenment period western culture based its conceptual framework on the philosophy of early Greece. The Greeks placed an importance on the study of number and geometry as a means of understanding the underlying truths of reality. These truths were assimilated into the metaphysical concept that the universe is a dynamic creative whole.



Introduction

I propose to consider the value of Greek philosophical and mathematical models in relation to the development of western conceptual frameworks; the transformation from the medieval to the modern, and the emergence of a new paradigm, that rises from the decline of modernism, which based itself on the fundamental interconnection of all events and processes and the inherent creativity imbued within them. To understand the nature of the emerging paradigm and its position in relation to the modernist/post-modernist mindset, it will be necessary to retrace western philosophy to its source in the early Greek civilization. From this point of reference we will find the incubus of fragmented western thought working in tandem with a cosmological view that was based on a whole system. Classical Greece parented the dividing mind of analytical positivist science, while simultaneously laying the roots for a practical philosophy of perceiving the world and participating in it as an interconnected whole.

The crucial role of science in constructing social paradigm in the west is an issue I will consider in relation to the implementation of the modern mechanist mindset, while the fundamental undermining of its basic premises, that occurred at the beginning of the twentieth century, enabling the growth of the new paradigm, will also be addressed. I will consider the importance of a holistic evaluation of the diverging strains in relation to the formulation of the new social paradigm. These strains represent the complementarity of thought that exists between the east and the west, together creating a global totality. Understanding the complementarity of opposites within an open dialogue that embraces all facets of society is the means by which our society can reinvent itself in the spirit of creativity.

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CHAPTER 1

The Dualistic Origins of Western Thought in Early Greece





Greek philosophy and society forms the basis for most of our conceptual frameworks for dealing with the world. From the Greek world we have derived our version of democracy. Life in Greece was centred around the dynamics of the "Polis" or the city state. The polis functioned autonomously within a network or federation of similar city states. Each polis had its own customs and laws that the citizens had to uphold. Each citizen had a role within the community of the polis, which was clearly defined. Individuals who disrupted the social order, i.e. breaking with the established roles that harmonise society, maximising sustainability, were forced into exile. An analogy can be made between the Greek polis and the human body: both function as whole systems within a greater sphere; the human body within its environment, the polis within the greater Greek nation. They share similar approaches to dealing with threats to their stability: the cells of the human immune system will attack and expel any disruptive invaders into the system, the assembly of the Greek polis would decree to have any disruptive influences exiled or, unfortunately in the case of Socrates, executed¹. The preservation of the polis was integral to the Greek way of life. The individual to the community, the community to the polis, the polis to the whole Greek culture. Balancing the Ionian spirit of individual freedom in an amalgamation with the Spartan devotion to the polis as a centre of devotion was the model upon which the Athenian state was conceived. In this model we find the finest platform for the encouragement of free individual thinking. The polis was directed by the assembly which was composed of every citizen² of the city state. The assembly created an open forum for a free thinking society where the engagement of art and intellect were the noblest of pursuits. In this and similar environments throughout the Greek world, Greek philosophy reached maturity.

¹Socrates was tried and given the death sentence by the Athenian assembly. His crime was of a philosophical nature. Socrates undermined the religion and power of the state, through dialectic rhetoric claiming that both these institutions, himself included, were ignorant.

²Citizens were any landowning person, later expanded to include all free men.



From the myths that preceded it Greek philosophy developed into two diverging chains of thought and practice regarding myths as a root for its philosophy. It is worth noting what Corfield has said on the subject:

Myths are nothing less that a carefully chosen cloak for abstract thought. Allen, J. 1979, p77

Although their myths referred to many gods and deities they were not taken as absolute The gods, and myths surrounding them, act as a means to supernatural beings. communicate the perceived principles of the universe through metaphor. In his critique of Sophocles' tragic play Electra, HDF Kitto reveals that the nature of the divine theoi is beyond simple association with the immortal gods. For the Greeks the divine or godlike has the function of universalising the particular. It was used in this way, in the above play, to illustrate that the divine will and the natural course of events are one and the same. The communication of higher universal dynamics through metaphysical stories involving gods and deities and the interplay between them and humanity is the predominant method of education in the Hindu Vedantist religion and philosophy of India. The Vedantists draw their spiritual, philosophical source from a collection of scriptures, the Vedas, written by anonymous sages between 1500 and 500 BC. They are written in four parts, the youngest being the Hindu philosophy. The Opanishads contains the essence of the Hindu spiritual message. Coomarasmanay explains the importance of the practical application of the philosopher in creating a social order:

Filled with enthusiasm for this doctrine of the unity or interdependence of all life, the Brahman-Utopists set themselves to found a social order upon the basis provided. In the great epics they represented the desired social order as having actually existed in a golden past and they put into the mouths of epic heroes not only the actual philosophy but the theory of its practical application.

Coomaraswamy, A.K., 1985, P6



The education of India was accomplished through deliberate hero worship. This parallels the mode in which Greek philosophy was circulated. The classic poems of Homer, *The Iliad* and *The Odyssey* express the principles of gods and men through story telling.

In the creation myths of the Greeks the universe was not created out of nothing as it was in Judeo-Christian tradition. For the Greeks there was always something, and that something was a unity. The universe and the cosmos was born out of the earth mother Gaia. The generations of the world are biological reflecting the Greek view that the cosmos is a living system with the primary entity being Gaia, Mother Earth, from whom all things come and return. This view of Gaia as creator and destroyer of life is parallel with many ancient cultures including the Celts of northern Europe whose Sile na Gig entity symbolizes the "devouring mother". Before Gaia there was simply the One. The One differentiated itself into two principles, Earth and heaven, creating universal gender by ascribing femaleness to the earth and maleness to the heavens. The whole is divided into a dynamic interplay of opposite but harmonious forces. This notion finds expression in the ancient Chinese science and philosophy of the Tao. The Chinese sages represented this complementarity of opposites by the archetypal poles yin and yang. They saw their dynamic interplay as the essence of all natural phenomena, and all human situations. The two archetypal poles of nature were represented not only by male and female, but also by bright and dark, firm and yielding, above and below and so on. Yang the strong, male creative power, was associated with the heavens, whereas yin, the dark receptive female and maternal element, was represented by the Earth.

Having parallelled the Greek notion of dynamic opposites within a whole, with its Chinese counterpart it will now be possible to the discuss the philosophies that emerged from within those opposing forces. Ascribing gender to the forces that operate within the universe is a fundamental that is common to many cultures. Mindsets of civilisations have undergone gender switches which have radically altered the whole structures of their societies. If viewed in terms of revolving cycle of male and female values, western

paradigms have undergone the transformation from matriarchal to patriarchal societies on two tumultuous occasions. The first time heralded the introduction of the Olympian gods into Greece and the second time, which was of greater visible consequence, was the Renaissance coupled with the Scientific Revolution and the Counter-Reformation. The dominance of one gender over another will reach a climax leaving it to ride the wave of its own success. Yet the inevitable complacency that sets in due to the decadence of the overtly comfortable, leaves space for germinating the seed of the opposing gender. The wheel turns and the roles reverse. Our current society is still trying to time the patriarchal tidal wave while the wave threatens to consume all it has achieved. The early Greek philosophy arose out of a situation where the old matriarchal Gaian mode had been usurped by the patriarchal Olympian gods that were dominated by Zeus. These gods were imported from the north-west of Greece in opposition to the Gaian model which had its roots in the south-east.

The introduction of the Olympian gods into the Greek cultural psyche marked the beginning of the transformation of the matriarchal to a patriarchal society. The dividing analytical mind was the quintessential mode employed in the enquiry into nature. The understanding of phenomena through the application of ordered systems and rules. Through this approach the science of geometry and number emerged. The analytical scientific mind was symptomatic of the Apollonian school of philosophers, based on rationale and logic. Logic as a route to knowledge has its roots in the philosophy of Heraclitus, was operated in a time when the distinction between Dionysian and Apollonian (holistic and reductionist) forms were blurred. Heraclitus believed that man is subject to the laws of the cosmos and that "logos" was the key to genuine wisdom. Logos is the one unchanging principle in terms of which the plurality of changing things becomes intelligible. Logos is an underlying force of wisdom that is both within and without. Wisdom comes from the "logos" that is internal. The logos that is internal is connected to the external which is omnipresent. Heraclitus' "logos" is seen is terms of creative impulse that tends towards wisdom is in parallel with the theo-philosophy of the twentieth



century theoretician A.N. Whitehead who believed creativity was the central driving force of the universe. An expansion of Whitehead's concepts of creativity will follow in the final chapter which deals with twentieth century holistic philosophy and practice.

Heraclitus coupled with Pythagoras (although being distinctly different in nature and having never worked together) can be sourced as the forerunners of the two traditions that developed out of the Greek culture. Both the mystical and analytical traditions hold that at the base of the cosmic structure and all things that exist is number. From this common starting point the philosophies diverge. While the mystical tradition is concealed with the purification of the soul of man through the attunement with the ultimately real, using the pursuit of maths as a principle designed to purify the soul, the analytical tradition concentrates on understanding the underlying laws of nature as a means of human social empowerment, without regard for the greater environmental sphere or spiritual enlightenment.

The type of philosophy to which an Olympian theology will give rise will be dominated by the conception of spatial externality...it will tend towards discontinuity and discreteness. Originating in a polytheistic scheme, it will be pluralistic. It will also move towards materialism, because having no hold upon the notion of life as an inward and spontaneous principle it will reduce life to mechanical motion, communicated by external shock from one body to another. It will level down the organic to inorganic and pulverize God and he soul into material atoms.

Allen, J. 1979, p83

This is the view AC Cornfield ascribes to the analytical tradition. The notion of externality is brought to fruition with Cartesian mind-body split while the substitution of the organic for the inorganic is the mode employed by Newtonian physics, both the factors become the shapers of the modern materialist secular world. The mystical tradition on the other hand derives its inspiration from the Dionysian earth based religious influences; it denotes humanities in connection with the processes of the natural world, studying the



dynamics of seasonal systems and the interconnectedness of all natural processes. The common ground they exhibit is a pursuit of reality through the vector of geometry.



CHAPTER 2

Geometry as a Basis for Universal Unity





Geometry is derived from *geo* which derives from *Gaia*, the Greek earth goddess and *metry* which means measure. The compounded meaning is therefore the measure of the earth. Geometry is the study of spatial order through the measure and relationship of forms. It can be derived from the annual work of the Egyptians who reclaimed or reimposed order on the flood plains of the Nile. This work was called geometry and was seen as a re-establishment of the principle of law and order on the earth. The discipline of classical education were based on a fourfold syllabus. The Quadrivium as it was know was composed of study of geometry and arithmetic, astronomy, the science of temporal order through the observation of cyclical movement of the heavenly bodies and the study of music and harmony. The laws of simple harmonics were considered to be universals which define the relationships and interchange between the temporal movements and events of the heavens and the spatial order and development on earth.

They supposed the elements of members to be the elements of all things and the whole heavens to be a musical scale and a number. Aristotle Met 985/023-986a 12,1568

The implicit goal of this education was to enable the mind to become a channel through which the "earth" or the level of manifest form could receive the abstract cosmic life of the universe.

The practice of geometry was an approach to the way in which the universe is ordered and sustained. Many ancient cultures chose to examine reality thought the metaphors of geometry and music (music being the study of the proportional laws of sound frequency, which has its roots in early Greek culture where it was ascribed to any study which is influenced by the divine muses). This placed their concepts of reality in close parallel with our most contemporary science. Modern forcefield theory and wave mechanics corresponds to the ancient geometric harmonic vision of universal order as being an interwoven configuration of wave patterns. Bertrand Russell realised the profound values


of the musical geometric base to what we call Pythagorean mathematics and number theory. He supported this view in *The Analysis of Matter*:

What we perceive as various qualities of matter are actually differences in periodicity.

Lawlor, R., 1982, p4

Quantum Theory has shown that particles are not isolated grains of matter, but are probability patterns interconnected in an inseparable cosmic web. Relativity theory has made these patterns come alive by revealing their intrinsically dynamic character. The idea that reality is composed of dynamic events or processes is central to Buddhist philosophy in the words of D.T. Suzuki:

Buddhists have conceived an object as an event and not as a theory or substance....The Buddhist conception of "things" as samskara (or sankhara), that is as deeds, or events, makes it clear that Buddhists understand our experience in terms of time and movement.

Capra, F. 1988, p226

If we consider the means by which our senses perceive the nature of our world, we will find that our five basic senses are tuned in to receive and process five ranges of wave frequencies. The difference in our perceptual faculties such as sight, hearing, touch and smell are as a result of various proportional reduction of one vast spectrum of vibratory frequencies. In the words of R. Lawlor:

The content of our experience results from an immaterial abstract, geometric architecture which is composed of harmonic waves of energy, nodes of rationality, melodic forms springing forth from the eternal realm of geometric proportion.

Lawlor, R., 1982, p5

The disparity between our five basic physiological senses is compounded, when we consider their relationship to abstract metric or geometric space, or to the differing consciousness of psychological awareness. Yet all these modes of spatial being converge in the human mind-body.



This convergence of the forms of eastern philosophy, in particular the practical mysticism that arose from the exchange of ideas that occurred when Indian Buddhism spread into China to encounter Taoism. The pragmatically minded Chinese developed the doctrines of Buddhism into a system of continual practice within their daily lives. This system was given the name Chan. Its method was designed to enable the user to attain enlightenment through the everyday practice of the system. Enlightenment is the point at which all modes of awareness in the universe converge in the mind-body of the enlightened, becoming one. The enlightened becomes aware of their complete integration in the energy pattern of the universe. Govinda throws some light on the nature of this experience:

In this space-experience the temporal sequence is converted into a simultaneous co-existence, the side by side existence of....again does not remain static but becomes a living continuum in which time and space are integrated.

Capra, F., 1976, p205

This experience of space as an energy continuum is in direct relation with modern forcefield theory which tries to unravel the hidden geometries of the universe, to achieve an understanding of the ultimate reality.

Geometric diagrams can be contemplated as symbols which reveal a continuous, timeless universal action generally hidden from our normal perception. This common mathematical activity became a vehicle for intellectual and spiritual insight. The research of modern quantum physicists has revealed that the subatomic world is a world of rhythm, movement and continual change. Yet it is not arbitrary and chaotic, but follows very definite and clear patterns which exhibit high levels of symmetry. Four basic conservation laws have been observed in connection with the symmetries of subatomic particle interactions: conservation of momentum, energy, rotation or orientation in space and conservation of electrical charge. These basic laws occur regardless of when the interaction takes place in space or time. The discovery of symmetrical patterns in the particle world has led may physicists to believe that these reflect the fundamental laws of

nature. The study and practical use of geometry as a medium for spiritual development is by no means idiosyncratic to western intellectual development. Tantric Hinduism employed geometric diagrams and mandalas to concentrate and direct mental energies to perceive the fundamentals of the universe. The most revered of all Tantric diagrams, the Sri Yantra, embodies all the functions active in the universal energy continuum through its mine interlocking triangles. The Chinese yin-yang diagram depicting the dynamic interplay of opposites is based on a rotational symmetry.

Plato considered geometry and number as the most reduced essential and ideal philosophical language. Geometry functions at a certain level of reality, of which there were three in Greek philosophy. They were separated into categories of the typal, the ectypal and the archetypal. The typal is conceived with the manifest form of an object or process. The ectypal is the unmanifest formal idea of an object or process. The ectypal is the unmanifest formal idea of an object or process. The ectypal is the typal can become materialised. The archetypal functions on a level above the typal and ectypal. The archetypal is the power principle concerned with the universal processes or dynamic patterns which can be considered independently of any structure or material. This is in parallel with the pure function of geometry, the way of the Tao and the systems of Chan to reveal the underlying actions that guide the universal continuum.

For Plato, reality consisted of pure essences or archetypal ideas of which the phenomena we receive are only pale reflections. These ideas cannot be perceived by the senses, but by pure reason alone. He was interested in the underlying form of manifest reality and the forces that operated without it. He realised the limitations of conventional language for describing the nature of the universe. In this manner he was preceding the twentieth century physicists' notion that the language used to describe reality was developed to deal with the phenomena that was perceived:

The problems of language here are really serious. We wish to speak in some way about the structure of the atoms...But we cannot speak about atoms in ordinary language.

Heisenberg, W., from Capra, F., 1976, p53

It also corresponds to the Eastern mystics who say that space and time "*are nothing but names, forms of thought, words of common usage.*" (Madhyamika, Karika, from Capra, F., 1976, p183). Geometry became the language recommended by Plato as the clearest model by which to describe the metaphysical realm:

And do you no know that they (the geometers) make use of the visible forms and talk about them, though they are not them but of those things of which they are alikeness, pursuing their enquiry for the sake of the square as such and the diagonal as such, and not for the sake of the image of it which they draw? And so in all cases...what they really seek is to get sight of those realities which can only be seen by the mind.

Plato, Republic VII, 510d, e. 1955

Plato disassociated himself from the Sophists of the Apollonian mode, whose enquiry was purely analytical concerning themselves soley with a human society that was abstracting itself from nature. Being aware of the Dionysian earth based mystical tradition he layed the base of a geometry that was both philosophical and sacred. Philosophical geometry re-enacts the unfolding of each form out of a preceding one. This mirrors twentieth century theoretical physicist D. Bohm's theory that the universe is a process with each event unfolding out of previous events, the universe in an eternal process of becoming. D. Bohm's theories will be developed further in their twentieth century context in the final chapter of this account.

Ancient geometry being synonymous with sacred geometry begins with One, which is a cosmological symbol of the unity of the universal whole. It is a meditation upon a metaphysical unity, followed by an attempt to contemplate the pure formal order which springs forth from this incomprehensible Oneness. The multiplicity that derives from one



is signified by the linear progression to the number two. Two is seen as the original essence form which the power of duality derives its reality. Two can be represented in the formal sense by a line which connects two pints or divides a unity. From two we progress to three which represents the trinity; formally it becomes a triangle. Its importance lies in its status as the first surface created from the division of unity: from the point to the line to the plane. In India the triangle represented the Mother, for it is the membrane or birth channel through which all the transcendant powers of unity and its initial division into polarity must pass in order to enter into the manifest realm of surface. The triangle acts as the mother of form. Four is formed by the procreative multiplier effect: 2 x 2 = 4. As a form, four is the square representing the manifest form is represented in the countless mandalas that form a core of the spiritual imagery in the East, also being mirrored in the forms of early Christian iconography through to the construction of the domed vaults of Gothic and Islamic churches.

In biology the fundamental role of geometry and proportion becomes more evident when we consider the eternal flux of all matter:

Every atom of every molecule of both living and inorganic substance is being changed and replaced. Every one of us within the next five to seven years will have a completely new body down to the last atom.

Lawlor, R., 1982, p4

Within this whirlpool of change where can we find the basis for that which appears to be consistent and stable. Genetic coding may be the vehicle of replication and continuity, but this doesn't lie in the particular atoms of which DNA, the gene substance, is compounded, as these atoms are also subject to change. The carrier of continuity is not only the molecular composition of the DNA, but also its helix form. The helix, which is a special type from the group of regular spirals, results from sets of fixed geometric proportions. The form is responsible for the replicating power of the DNA. These





I Ching as Description of Holonomic Space-Time Matrix and as Description of Genetic Code



proportions can be understood to exist a priori, without material counterparts, as abstract geometric relationships. Robert Lawlor states:

The architecture of bodily existence is determined by an invisible immaterial world of pure form and geometry.

Lawlor, R., 1982, p4

The Chinese understood geometry to be a revelation of a static event in the process of eternal change. To them it illustrated the harmony of opposing forces in stasis. Devising a system as early as 5,000 years ago, they represented the forces that are operational in the universe. The I Ching, as it is named, is a binary system of two opposites: yin and yang, a line and a broken line (---, --). Three binaries combining to form what is known as a trigram or kua ($\equiv \equiv$, the receptive). There are eight possible trigrams. These trigrams were set into a circle with opposites facing each other. This arrangement being called the "Early Heaven" represented the universal forces in the "Eternal Present" or the electromagnetic field. A second arrangement of the kua was made by King Wen This new form dealt with the temporal terrestrial field or the 1,800 years later. gravitational field of the earth rotating in time. The two arrangements can be combined to form 64 hexagrams. These correspond to mankind's interplay between the primordial forces of the universe and the temporal events of the terrestrial sphere. The I Ching became the pivot around which the Chinese developed their science and philosophy, which as a consequence has a deep understanding of the dynamic principles that operate within the cosmos. What is most interesting at this point, however, is the relationship of the I Ching to another binary system, that is the binary codes that make up the DNA code of every known organic lifeform.

The I Ching is the measure of transformation of mind and body in the space-time continuum. The DNA code is the measure of transformation of body on the same continuum. That they correspond exactly, in terms of their binary coded possibilities, reveals the complementarity of eastern and western enquiry in to the nature of the world's



dynamics. Their correspondence represents, with overwhelming clarity, the unity that could be achieved through a synthesis of the two traditionally opposing methods of thought. The possibility of creating a synthesising unity, has not been available to the global society since the revolutionary changes that characterised the Age of Enlightenment. Now it seems this age, which produced our modern consumptive society, has reached its peak, and is now in a state of decline. The reason for its decline is based precisely on the values of the culture and society it created. I will attempt to explain the impulse and vectors that have sculpted the modern world, through its development from the Age of Enlightenment to its present state of disenchantment.

CHAPTER 3

The Age of Enlightenment: Understanding to Empowerment, The Nature of the Paradox





In the first two chapters of this account I have dealt with the two poles of Greek cultural framework, the analytical and the intuitive, and the importance of number and geometry in the quest for knowledge. Man is the measure of all things. Through geometry, the measure of the earth, mankind could understand the dynamics of the natural order. Locating his position within this order was the motivation for this quest for knowledge. The route of wisdom was considered to be an understanding of the order to achieve harmonious living within it. The analytical and the intuitive means of learning were both considered to be legitimate avenues of enquiry. Although opposing in character they had a fundamental common feature rooted in their philosophical ethics: the pursuit and application of science as a means of understanding, the purpose of which was to achieve enlightenment and personal liberation. Thomas Aquinas synthesised the spirit of Christ with the ethics that Greek philosophy produced. This formed the basis for the medieval conceptual framework. In the sixteenth and seventeenth centuries a cultural revolution began which severed its bonds with traditional values, projecting a society that would travel a vector of constant growth and progress. This period, lasting three centuries, created the modernist mindset and became known as the "Age of Enlightenment". It consisted of a vast accumulation of knowledge and a spate of socio-political-economical change and upheaval: the Scientific Revolution, the two Christian Reformations, the Industrial Revolution and the Communication Revolution, to name a few. All of these were driven by patriarchal imperialism. I will attempt to explain the sources of this transformation, while arguing that the Age of Enlightenment is a title of a paradoxical nature, as it produced knowledge at the expense of wisdom.

The Age of Enlightenment, or more appropriately the Age of Mechanical Reasoning, was conceived and consolidated by three prominent scientist/philosophers: Francis Bacon, Rene Descartes and Isaac Newton. Their theories converged to form an intellectual gravitational core to which subsequent intellects and theories were attracted to form the constellation of energy that created the modernist conceptual framework. Francis Bacon was the first to set forth the empirical method in science. He formulated a clear theory



of the inductive procedure: to make experiments, drawing conclusions from them to be verified by further experimentation. He became extremely successful by vigorously advocating the new scientific methodology. Bacon was instrumental in shifting the purpose of science from wisdom to power. The traditional approach had been to use science as a means of understanding. Bacon advocated employing science as a means of manipulation and empowerment, proclaiming that "*knowledge itself is power*" (Capra, F., 1988, p226). The organic world view of the middle ages had implied a value system of ethical restraints that were conducive to sound ecological behaviour. Bacon upturned this tradition, the organic view of nature was replaced by the metaphor of the world as a machine, which could be operated or controlled by man. Nature, in his view, had to be "*hounded in her wanderings*", "*bound into service and made a slave*". She was to be " *put in constraint*" with the aim of scientists to "*torture nature's secrets from her*" (Capra, F., 1980, p30).

The nature of Bacon's prose and methodology laid the basis for a profoundly unecological science, employing a Machiavellian sense of ends justifying means. The rape of our natural environment by technological prospectors was legitimised by claiming that its means were conducive to progress. This notion is anathema to ideologies which subscribe to the belief that mankind and nature are inseparable, living, whole organisms. Carolym Merchant illustrates this point:

The image of the earth as a living organism and nurturing mother serve as a cultural constraint restricting the actions of human beings. One does not readily slay a mother, dig into her entrails for gold, or mutilate her body... As long as the earth was considered to be alive and sensitive, it could be considered a breach of human ethical behaviour to carry out destructive acts against it.

Capra, F., 1980, p30

The Baconian/Cartesian view of the universe as a mechanical system provided a "scientific" sanction for the exploitation of nature that has become typical of western



culture. Bacon's view affirmed that scientific knowledge could be used to "render ourselves the masters of nature" (Capra, F., 1980, p226).

His view of nature as female, whose secrets have to be tortured from her with the help of mechanical devices, is strongly suggestive of the widespread torture of women in the witchtrials of the early seventeenth century. Bacon, as Attorney General to King James I, was intimately familiar with such persecutions. Thus Bacon and his work personify an important connection between two principle strands of the emerging paradigm, the mechanistic concept of reality and the male obsession with dominance and control in patriarchal culture. Bacon's obsession for dominance is reflected in his aggressive attacks on traditional sciences which were earth based, ecological and holistic in nature. The guardians of much of this knowledge were herbalist women, white magic practitioners, who also acted as midwives in their community. In order for his methodology to achieve dominance Bacon had to discredit any conflicting models. Undermining the position of women was a simple case of proclaiming them witches. Enlisting the support of the church to outlaw the use of white magic effectively reduced the communication of such knowledge. On an intellectual level Bacon proclaimed that traditional science could not be proven in experiment, therefore he concluded it was unscientific, superstition. This view of empiricism as the one true means by which knowledge or hypotheses could be scientifically legitimised was also held by Descartes:

Whatever is not deduced from the phenomena is to be called a hypothesis, and hypothesis, whether metaphysical or physical, whether of occult qualities or mechanical, have no place in experimental philosophy. In this philosophy, particular propositions are inferred from the phenomena, and afterwards rendered general by induction.

Randall, J.H., 1976, p224

The empirical methodology that Bacon developed was followed by the analytical method of Descartes. It consists of breaking up thoughts and problems into pieces and arranging these in their logical order. This analytical method of reasoning is probably the greatest



contribution Descartes made to science. It has become an essential characteristic of modern scientific thought, proving itself to be extremely useful in the development of scientific theories and the realisation of complex technologies. Descartes deduced that the essence of human nature lies in its capacity to think: "*Cogito, ergo sum*", "*I think therefore I exist*". This led to an affirmation of the mind over the body, which was reduced to the level of biological machine. Descartes believed that the mind and body were different and separate entities. Thus he asserted

There is nothing included in the concept of the body that belongs to the mind; and nothing in that of mind that belongs to the body. Capra, F., 1982, p215

The Cartesian division of mind and matter has had a profound effect on Western thought. It has taught us to be aware of ourselves as isolated egos existing inside our bodies. This is an extreme departure from the philosophies that developed from the Greek world and throughout the centuries that followed, which held that the universe is one and infinite, with humanity being inseparable from it at all levels, from the basic manifest to the depths of the unmanifest realms.

The Cartesian version of the world and universe as a gigantic mechanical clockwork, with all maternal forms including the human body also being machines, was reinforced by the mathematical formulation of the mechanistic view of nature, which proved to be very successful as it was found to be applicable to the continuous motion of liquids, the vibration of elastic bodies, thermodynamics, the theory of sound as well as its original form: the motion of solid bodies. With this he accomplished a grand synthesis of the work of Copernicus and Kepler, Bacon, Galileo and Descartes. Newtonian physics provided a consistent mathematical theory of the world that remained solid well into the twentieth century. He invented a completely new method to describe the motion of solid bodies: Differential Calculus. Einstein credited this as "*perhaps the greatest advance in thought that a single individual was ever likely to make*" (Capra, F., 1982, p44). The



significance of his laws lay in their universal application. The Newtonian universe was one huge mechanical system operating according to exact mathematical laws, functioning in two separate autonomous dimensions: that of absolute space and absolute time. As with the Cartesian split, these dimensions had no relations. The elements of the Newtonian world were material particles, small solid unchanging indestructible objects, out of which all matter was made. This atomistic view could be traced to the Greek Atomists who were led by Democritus. In Newtonian mechanics all physical phenomena are reduced to the motion of material particles, caused by their mutual attractions in the force of The effect of this force on a particle or any material object is described gravity. mathematically by Newton's equations of motion. These were considered fixed laws and were thought to account for all changes observed in the physical world. For Newton, the whole universe was set in motion by God, and has continued to run ever since, a machine governed by immutable laws of physics. The mechanistic view of nature is closely related to a rigorous determinism. Any action had a definite cause and gave rise to a definite effect, and the future of any part of the system could in principle be predicted with absolute certainty if its state at any time was known in all details.

Newtonian mechanistic physics, with its emphasis on the linear progressions of cause and effect and the Cartesian mind-body split have had a profound effect on the development of western culture. Without these intellectual breakthroughs the modern industrial technological world may not have been possible. The development of learning in western society and the methods of analysis had adhered to the mechanist principles of Newton and Descartes. While achieving incredible advances in knowledge in this form of technology and control, it has lost sight of the concepts of integration, understanding and wisdom. This has led to the production of an unethical societal which at its deepest level is unhealthy for the individual, the greater community and ultimately devastating to the environment. F.A. Schuamacher has claimed that "*the progressive elimination of wisdom has turned the rapid accumulation of knowledge into a must serious threat*." (Capra, F., 1988, p226).



The issue of health is crucial in maintaining a balanced society. The society must be composed of individuals who are mentally and physically healthy as a whole. Descartes' strict division between mind and body led physicians to concentrate on the physical manifestations of illness in the body machine whilst the psychological, social and environmental aspects have been neglected. It has been generally proven that the psychological state of a person is not only relevant in the generation of illness but crucial to the process of healing. This is taken as a given with traditional healers throughout the world who work with the interplay of mind and body in the healing process. Avoidance of the philosophical and existential issues that arise with every serious illness is a characteristic aspect of contemporary medicine.

The source of most health problems is regarded to be on the molecular level or the result of invading bacteria. This deduction is the result of applying linear cause and effect reasoning. Medical science views the body as machine, and illness as a fault in its mechanics. It reduces the manifestation of illness to the mechanism of its initial physical production, i.e. its physical symptoms. It isolates the symptoms from the whole body. The symptoms are regarded as the effect, the cause is generally attributed to bacteria, viruses or genetic defect. Science applies medication in the form of drugs to kill the bacteria. By destroying the bacteria (cause) it concludes that it has removed the problem (effect), so the patient will return to health. What is essentially wrong with this method? By isolating symptoms to what is considered to be the cause, on the molecular level, medical practitioners lose sight of the organism as a multi-levelled whole. Louis Pasteur, who discovered bacteria, realised that every human organism acts as host to a multitude of bacteria. He pointed out that these can cause damage only when the body is weakened. The bacteria may not necessarily be the cause but rather the effect of some other condition which, within reductionist techniques, will get overlooked.

How often does it occur that the condition of the patient, his weakness, his mental attitude...form an insufficient barrier against the invasion of the infinitely small ones.



The Age of Enlightenment: Understanding to Empowerment, The Nature of the Paradox

Pasteur, L., from Capra, F., 1982, p226

As a whole, multi-levelled organism cause and effect is not confined to linear progressions. As a consequence, eliminating the symptoms of illness is not necessarily equatable with successful healing. If the illness is pathological it will inevitably resurface after medication ceases. This method transfers to the treatment of mental health, in psychiatry. The preferred way to treat mental illness is with medication which controls the symptoms of the disorder but does not cure it. This mechanistic approach to healthcare is in many ways transferable to the dynamics of modern politics, economics and social structures. In politics the removal of a corrupt leadership will not resolve the problems of a state until the system that those leaders operated within is also removed. The pigs in George Orwell's Animal Farm, having liberated the animals, assumed the position of tyranny that they usurped. A social problem such as drug abuse in a community has many causes. Reductionism will locate the cause as the drug pushers who sell the narcotics. As a result of this logic it will remove the pushers. A temporary solution: within time the pushers will be replaced. To solve the problem, the reasons why there is a market demand for drugs have to be addressed. This involves looking at the interconnections that this problem, or any other, has to the system it operates within. The reductionist principles of modern mechanist society fail at this point as it does not have a systems awareness that can deal with problematic issues as a whole.

What is needed is a new conceptual framework for society as a whole. One that integrates concepts of interconnection, networks and change into its dynamics. One that sees the human organism as a whole and society as an extension of this whole, the society being integrated harmoniously into the environment. What is needed is an organic ecological framework that has within its nature an ability to change and evolve to meet the needs of a society which is ultimately never at rest.

CHAPTER 4

Reconstituting the Whole: Creativity as the Means for Social Evolution





Plato believed that the psyche of individuals creates the model around which the society will form. The people's perception of themselves and their conception of the world mandates the functions of the society. If a society is seen as a multi-levelled system, the microcosm of the individual which functions as a system not confined to linear causation, the psyche of the collective will undoubtedly inform and mould its individual persons. The modern mechanist psyche has separated the material from the spiritual, the mind from the body, the particle from the process and the individual from the whole. For the first time in history, a culture has developed, out of modernist precepts, that denies the existence of a supernatural order operating in tandem with the mundane processes and systems of that culture. The emergence and fortification of a truly secular culture, the industrial, scientific, capitalist, consumerist culture, is symptomatic of the western mechanist mindset. Following the train of thought developed by the Greek analytical tradition and refined by the scientific philosophers of the Enlightenment period, it has wrought a society which is spiritually defunct and where the individual is isolated from the systems of power, becoming nothing more than a cogwheel in the mechanism of a purely functional disenchanting system.

As a consequence of the mechanist tendency to view systems in terms of their smallest parts, the cult of the individual has been projected from the top levels of society towards the bottom. This has set in motion the Darwinian ethics of survival of the fittest. Within an organism whole essential nature is social, individualism works in opposition to the dynamics of a whole. Propagation of the individualist myth engenders disconnection within the whole. The individual becomes isolated from any communal spirit and alienated from a sense of belonging. This condition is conducive to mental disturbance and bad health. As individuals are microcosms of the whole their mental imbalance will be reflected in the greater social sphere. Evidence of this can be seen in the increase of crime and outbreaks of unprovoked violence in dysfunctional individualist societies.



"It will level down the organic to the inorganic and pulverise God and the soul into material atoms,"(Allen, J., 1979, p72). A.C. Cornfield projects the trajectory of the analytical tradition. In the twentieth century this projection has become a reality. Religion or spirituality in the modernist society is concerned only with the image of God, the material, the ritual spectacle of the church. "The masses have hardly retained anything but the image of him, never the idea." (Baudrillard, J. 1983, p7). The transcendant idea which is both the subject and object of any religious code has been eclipsed and neglected by materialism. The separation of mind and body causes people to deal almost exclusively with the image, the manifest form rather than the underlying principle. In Platonic terms the transcendant idea is aligned with the archetypal idea, the essence or the ultimate reality, while the image is the manifestation of the typal, in the realm of the banal, the diluted essence. Concentration on the image as a conclusive entity is falling short of the essence that lies within and beyond the image. Our secular order is the result of a societal focus on materialism and a wilful disengagement with that which is spiritual or other.

Mechanist science postulated that in order to study nature scientists must use the language of mathematics. In order to do this, scientists should restrict their studies to measurement of the essential properties of material bodies, shapes, numbers and movement, quantifiable properties. The study of nature through number and geometry was also the method advocated by Plato. Yet Plato and the enlightenment scientists differed fundamentally. Plato understood this work to be reverential to a higher abstract order of spirit or archetypal ideas. The Cartesian split prevents any conclusions made about the manifest world from having any relevance to a higher plane. A higher order can not be empirically measured and doubtlessly proven, therefore it is unscientific. Cartesian logic demands that it be rejected. Platonic geometry, the measure of the world, was a multi-levelled system of understanding which, like religion, conceived of the world in both subjective and objective terms. Mechanist science deemed that properties like colour, sound, taste,


smell, were merely subjective projections which should be excluded from the domain of science. R.D. Laing puts his scientific reductionism in context:

Out of sight, sound, taste, touch and smell and along with them has gone aesthetics and ethical sensibility, values, quality, form, all feelings, motives, intentions, soul, consciousness, spirit. Experience as such is cast out of the realm of scientific discourse.

Capra, F., 1982, p40

The world had become a machine and man the disenchanted automaton who pulls the levers.

All Science is certain evident knowledge. We reject all knowledge which is merely probable and judge that only those things should be believed which are perfectly known and about which there can be no doubts. Rene Descartes, from Capra, F., 1982, p42

This is the presumption upon which mechanist science is based. It is self evident that it is reductive being based on empiricism: all that is unintelligible to the empirical model is rejected on scientific grounds. The statement is dogmatic, adhering to the belief in scientific knowledge as absolute truth, whilst undermining alternative modes of enquiry. This assumption remained unchallenged in the scientific community until the early twentieth century. The challenge marked the beginning of the end for the modernist mindset and the germination of a new social paradigm that in many ways reinterprets the medieval concepts of unity, regarding the earth as a nurturing living organism within the universal continuum. A systems approach to living is advocated by the new paradigm, revolving around the liberation of creativity within the individual, through the society and back again to the individual: a multi-levelled creative loop.

The great extension of our experience in recent years has brought to light the insufficiency of our simple mechanical conceptions and, as a consequence, has shaken the foundations on which the customary interpretations of observation was based.



Reconstituting the Whole: Creativity as the Means for Social Evolution

Capra, F., 1976, p62

Neils Bohr made this pronouncement after nuclear physicists discovered that, while following reductionist modes of enquiry, the nature of reality was opposed to those conceptual models they believed it operated within. Nature revealed itself as a complicated web of relations between the various parts of the whole, rather than the atomistic concepts of "basic building blocks" whose interactions conform to linear mechanics. They found that the relations always include the observer in an essential way, thus undermining the modernist dualism of subject and object being separate and absolute. The subject-object dichotomy has been very problematic to the development of the western mind as it places the person outside the object or process he or she observes. This is an aspect of reasoning that has led to our society's disenchantment with the world it "observes". Inclusion of the observer in the process of observation changes their role to that of participator. Through participation our view will change from that of isolation from the process, to a sense of belonging that comes from being involved.

If we think of the world as separate from us, and constituted of disjoint parts to be manipulated with the aid of calculations, we will tend to try to become separate people, whose main motivation with regard to each other and to nature is also manipulation and calculation. But if we can obtain an intuitive and imaginative feeling of the world as constituting an implicate order that is also enfolded in us, we will sense ourselves to be one with this world.

Bohm, D., from Jencks, C., 1992, p390

Einstein's General Theory of Relativity abolished the concept of absolute space and time. It was realised they were integral to each other, forming a four dimensional space-time continuum. Space and time became elements of a language a particular observer uses for describing observed phenomena. Relativity theory shows that mass has nothing to do with substance, but is a form of energy. Energy, however, is a dynamic quantity associated with activity or with process. The revelation that mass is a form of energy has helped



solve the problem of the mind-body split. Mental processes are "thought energy" which is integral to the matter energy of the body. Together they form a whole cohesive unit. The fact that relativity and quantum theory together overturned the Newtonian physics shows the danger of complacency about world view. It illustrates that we must constantly look at our world view as provisional, as exploratory and to enquire. We must have a world view, but we must not make it an absolute thing. We must avoid dogmatism. The Cartesian model fails in this respect as it believed in the absolute truth of its revelations.

It only surveys on that belief which it accords itself (this same wager as that of science about he objectivity of the world) and which it doesn't try too hard to verify in tenor that the contrary hypothesis might also be true. Baudrillard, J., 1983, p35

David Bohm, who is one of the leading philosophical thinkers in the "New Age" postmodern science, creates an analogy between the electron, which is finely woven into its surroundings and the single person in society. Both the electron and the person cannot be disentangled from the context in which they exist. By creating situations where people can begin to have dialogue with each other, Bohm believes we might succeed in generating a kind of "superconductivity", a higher state of social intelligence. The concept of superconductivity is very interesting if looked at it in the context of Jose Anguelles' theory in Earth Ascending. Anguelle subscribes to the H.E. Lovelock "Gaian" hypothesis that the earth is a living, self-regulating whole system. From this point he expands Lovelock's work. He postulates that the evolutionary function of the earth is to create a wealth of diversity within the system, with the human mind being an integral part of the natural progression. The earth as a living organism developed consciousness with the evolution of the self aware mind. He incorporates the Jungian collective unconsciousness and the synchronicity principle to formulate a theory that attributes a mind to the earth. The collective unconscious, through the growth of human population, forms a field around the earth, situated within the Van Allen radiation belts. This has been named the "noosphere" or the "psifield". The "noosphere" functions as the brain



of the planet. In tandem with the human brain, Anguelles believes it is comprised of two hemispheres, a rational and an intuitive. The rational corresponds to the west while the intuitive denotes the east. Together they form a complementarity of thought that creates a global totality, i.e. the global brain, through open minded complementarity of thought that exists within separate traditions. With this, the potential to release new creative energies will be apparent through realisation, or awakening. Only through collaboration can we achieve a higher level of social understanding and practice.

Just as superconductivity makes possible marvellous things such as trains that can move with no friction or circuits where electricity flows at incredible speed, so the intelligence that comes from dialogue may make it possible for something new to come into human relations...I think that dialogue will liberate a more subtle kind of intelligence than that used in making tools. The intelligence that creates and uses tools is not able to organise society properly so as to take into account the consequences of these tools.

Bohm, D., from Tisdall, Wijers, 1990, p42

In Platonic philosophy the intelligence of toolmaking would be aligned to the rational element or the ectypal, while the subtle kind of intelligence is akin to the spirited element which derives itself from the archetypal level giving us our strength of will. The tools and products of the rational mind have been controlled by humanity's passions and desires, what Plato described as the appetitive element or the manifest. A healthy society must be composed of healthy individuals. Plato claimed that *"society is the individual writ large"*. Health is construed as the harmonious functioning of the physiological and psychological levels of the person. This is achieved through the balanced functioning of the soul. The soul is composed of a threefold structure: the rational element, the spirited element and the appetitive element. The soul functions harmoniously when the rational element, supported by the spirited element, governs the appetites.

Modern society's concentration on the rational element to feed its compulsive consumptive appetites has led to a "general loss of meaning" (Bohm, D. from Tisdall, Wijers, 1990,



p42). Naom Chomski has described the modern individuals as "*isolated atoms of consumption*". The loss of meaning is due to an underlying trend in society to deny the spirited archetypal level of our psyche. This prevents our individual consumptive lifestyles from being placed in the context of the whole society, and from there the whole earth. Using the rational element of the psyche to appease the appetites is engaging in a science of problem solving, that cannot captivate the interests of the majority of people. Reliance on this method has created the void of meaning which is very serious, as meaning is the basis of value and quality living. Without this sense of meaning humanities highest and most creative energies cannot be liberated. Bohm suggests:

If we are to survive in a meaningful way...a truly creative movement to a new kind of wholeness is needed, a movement that must ultimately give rise to a new order, in the consciousness of both the individual and society. Bohm, D., from Jencks, C., 1992, p384

David Bohm has interpreted the revelations of quantum physics beyond mechanist concepts to try to understand the nature of reality, not that which is quantifiable but the quality it exhibits. He believes the universe operates as a multi-levelled system. From here he divides it into two different but connecting realms: the implicate order and the explicate order. In Platonic terms the implicate order is in parallel with the archetypal, the explicate with the manifest, and the human consciousness operating as the ectypal bridge between the two. The explicate order is the manifest world that appears to be composed of separate objects and entities. Each and every object and entity is enfolded into the implicate order to become one field of potentiality. In the implicate order, enduring things are not separate from each other as they appear to be in the explicate order, but are mutually enfolded in each other. Each electron, for example, in some sense enfolds in itself the universe as a whole and hence all its other parts. "*The enfolded order is a vast range of potentiality, which can be enfolded*" (Bohm, D. from Jencks, C., 1992, p384). The unfolding of potentialities creates actualities which exist as events in the manifest



space-time continuum. It is at this point that we find an important connection with our most current theories of creativity.

What is emerging is a development of the Christian principle of God being the source of creativity. Amalgamated in the discussion are Einstein's principles of energy developed to include David Bohm's principle of enfoldment. Alfred North Whitehead, a prominent theologian in the debate, expands creativity beyond the equation of God and man. Creativity in the modernist sense was attributed to man through God's divine gift. Whitehead situates creativity as the central category for interpreting reality as a whole. For Whitehead creativity is the ultimate reality of which all things are instances. The ultimate reality which is called *creativity* by Whitehead is similar to that which is called being by Heidigger, emptiness by Buddhists and Nirgurna Brahmin by Vendantists. This means that the basic things or entities are events, spatiotemporal processes of becoming, or enfoldment. Bohm's implicate order is a unified realm of enfolded potentiality, of creativity as seen as the ultimate reality, the unfolding implicate order, which creates actualities from potentialities is in essence the unfolding creative impulse of the ultimate reality. The transcendant ideas of the archetypal creates the forms and processes of the manifest. The potentiality of the implicate order is the inherent creativity of the universal continuum.

Whitehead explained that the things comprising the world are spatiotemporal events. There is no "nature at an instant", taking "instant" in the technical sense of having no duration or temporal extension.

A distant event which takes place at some particular instant for one observer may happen earlier or later for another observer. It is therefore not possible to speak about the universe at a given instant. Capra, F., 1975, p183



There are no actualities devoid of spatial extension. All actualities are spatiotemporal events. Whitehead therefore says that all actualities are "*actual occasions*". No actual things simply endure passively. Moments in the life history of an electron, a cell and a human being all have one thing in common: each is an instance of enfolding creativity. Creativity is in this sense the ultimate reality, that which all actualities embody. All actualities are thereby creative events. The creativity of an event has two sides. On one side the event creates itself out of its predecessors. This self creative side has two poles or moments. The first moment is the event's physical pole. The second moment is its response to ideal situations. The event is not entirely determined by its past, although it is heavily conditioned by it. The other side of the event is its creative influence on the future. Once the event has completed its self-creative activity, it begins its career as an influence upon subsequent events.

To say that creativity is a force that is inherently good would not be true. Creativity is a principle which is beyond the distinction of good and evil. It is a source of inspiration which can be manipulated for either end. Given the primacy of creativity a multitude of creative individuals must always exist. The possibility of deviance from good is proportionately related to the amount of higher individuals that exist at any time. The higher individual's response to ideal situations is determined by their personal morals, whether good or bad.

A world with more valuable creatures is therefore necessarily a more dangerous world, both because higher creatures can more radically deviate from the divine persuasion for them, and because this deviation can create mor havoc than the deviations of lesser creatures.

Griffin, D.R., from Jencks, C., 1992, p337

Joseph Beuys, the German Shamamic artist, believed that creativity and art are evolutionary forces, with the potential to work for good or evil in society.



In the consumer society creativity, imagination, intelligence, not articulated, their expression prevented, become defective, harmful and damaging - in contrast to a democratic society, and find outlets in corrupted criminality.

Beuys, J., from Kouni, C., 1990, p150

Beuys realised the underlying spiritual nature of humanity. He postulated that in order for our society to evolve beyond the mechanical constraints of the modernist outlook we must begin to consult and develop our spiritual sense.

Man is first a being who needs nourishment for his spiritual needs, and that if he could cultivate and train this primary nature, he could develop whole other energies.

Beuys, J., from Kouni, C., 1990, p32

At this point the role of art and creativity are of paramount importance. The situation of art operating within a fixed boundary where artists and specialists work for an elite audience in an "*isolated field of so called cultural freedom*" (Kouni, C., 1990, p56), was a fundamental problem that Beuys addressed. Beuys announced an expanded concept of art to incorporate every field of human production, thereby investing all products with creative associations. He named this expansion the "*totalization of art*".

The freer a society the less it uses its basic mythology (common to all societies) for manipulation and control. Our mythology tells us that "the purpose of art is aesthetic edification for those cultured enough to appreciate it"...Art has then lost its proper role in society - lost its voice like the alienated person on the street.

Durham, J., 1993, p70-71

Beuys recognised the limitations of this profoundly socially ineffectual art. He challenged these constraints by claiming that "*everyman is an artist*" (Kouni, C., 1990, p37). Whether we perceive this as true, art historically or otherwise is not of prime relevance. What is important is the attempt to liberate the inherent creativity that lies



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within us and the universe as extension: the title "artist" is inconsequential to the fact that within every person lies the seed of creativity. To utilise creativity individuals must first become free. Freedom and creativity work in reciprocity: creativity flourishes through freedom, and freedom flourishes through creativity. Each individual has the potential to live free creative lives but the potential is diminished by ongoing social conditioning.

Man is largely influenced by factors stemming from his past, i.e. the collective unconscious. I would say that freedom is something dynamic that needs to be developed.

Beuys, J., from Kouni, C., 1990, p166

Creativity engenders free thinking and expression of ideals. As such, creativity must be emphasised in all fields of society, especially education. In this way society will learn to use its inherent creativity on a multilevelled basis. It will become an evolutionary force only by expanding the role of creativity in society. When every creative act of every creative individual is absorbed into the field of superconductivity, art then becomes an evolutionary force. With the freedom achieved through the expression of creative energies humanity will be able to collectively engage in solving the problems of the modernist system. Beuys proposed, in common with the spirit of the emerging paradigm, "*a permanent discussion concerning all human problems*" (Kouni, C., 1990, p56), without which the modernist system with all its connections may well be lost to the crises of increasing chaotic fragmentation and deconstruction.



CONCLUSION





CONCLUSION

Creative insight is required for new steps. Creativity is essential for the whole of life. If you get stuck in mechanical repetitious order you will degenerate. That is the problem of every civilisation. When the creative energy dies away, a civilization dies.

Bohm, D., from Tisdall, Wijers, 1990, p62

Western culture is in a state of decline. For too long it has followed the vector of technological growth, via ever finer specialisation of enquiry. Specialised enquiry is a reductionist model which enables the user to accumulate vast information about their chosen subject. Although its value is unquestionable, the nature of its use is. If it is employed as the overriding model of enquiry in all fields of learning, it will produce information which is fragmentary. It will be isolated from an awareness of the interrelationship of its findings, and how they pertain to the whole. For three centuries this form of enquiry has been employed by the western mind leading its society into the Age of Information. Our culture must pause and consider the nature of this sea of information. The accumulation of knowledge without regard for wisdom is a dangerous occupation. Without integrating the consequences of knowledge into the consciousness of the whole, our society is in danger of losing direction in the confusion of unrelated, unassimilated knowledge, or alternatively, blindly following the path of technological Either of these scenarios may have disastrous consequences. There are growth. fundamental issues at stake, to the global society, to name any three would be to risk sensationalism, yet they exist and must be tackled immediately and effectively with regard to the whole. The indecision that is born of confusion may prove fatal.

From the macro to the micro, our economics, our industry, our governmental policy makers are holding on, clinging to outdated models that continue to damage the environment in which they operate. Yet with the nature of change, the source of creativity will come, not from the failing institutions that survey from above, but will be



Conclusion

initiated by those who feel they can participate in the implementation of a new cultural framework. One based on creative interrelationships between traditionally separate fields, a cross cultural dialogue, where the individual works for the community to benefit the whole. The creative principle of emerging paradigm is based on the concept that every individual has creative potential that can be harnessed for the benefit of society. It believes in the liberating quality of creativity, and the possibility of exponential growth in creative endeavour, through the inspiring nature of open collaboration and the expanded awareness of the interconnected relationships between people, concepts and places.

In the emerging paradigm, the reductionism of the mechanist period is being replaced by an open minded search for connection, relation and integration. Understanding and integration is the route of wisdom. Individuals imbued with creative insight are working to release what has been lost, that which was perceived to be wisdom, in the stream of Greek thought, through to the medieval period, as the fundamental end of knowledge. The philosophy of the early Greeks was the catalyst that enabled the revolutionary leap from the middle ages to the renaissance, although more attention was paid to the Apollonian analytical mode, than the Dionysian tradition. The Athenian polis was founded on the spirit of individual freedom and devotion to the polis. In this freethinking society the pursuit of art and intellect were considered noble means of attaining wisdom. The earth was a living organism, with wisdom being the harmonious participation in the perceived order. In many ways the new paradigm has its roots in the philosophy of this The impulse of the rising culture is not centred on the theories of earlier culture. individuals. It's impetus lies in a culmination of interlocking conceptions which have a global complementarity of vision. Perception and participation are the fundamental issues, if we consider ourselves to be part of a creative world, with creativity being integral to each individual person. We will begin to participate within this field as equal open receptive units, whose actions are attuned to the needs of the greater whole.



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