

SCIENCE, MYTH AND RITUAL: Ideas On Changing One's Reality

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Ideas On Changing One's Reality

© By

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ABSTRACT

The aim of this work is to bring into play views from various disciplines in order to support the claim that we can change our realities.

The shift from classical to quantum physics shows that reality, even within the scientific framework, is subject to the specific paradigm with which it is approached, and as such, the reality it lays claim to is not absolute, but rather, relative to an interpretive framework.

Coupled with Kuhn's ideas on scientific revolutions, and Feyerabend's claim that epistemological anarchy is a requisite for expanding our knowledge of the world, the discussion of science points to the view that the reality we believe to exist is dependent upon our view of it, and is, therefore, subject to change.

Studies of symbol and myth are employed as supporting frameworks which show that we create and maintain our realities.

Symbol is that which we use to point to, hold on to, and maintain a specific interpretation of an aspect of the world. Myths, and in turn models, are the formalized patternings or frameworks bringing symbols into a unified and coherent picture of the world.

The final step of this work is to show one

methodology for changing our lived world.

Ritual, by deleting or replacing symbols, or by changing the patterns of interconnections between symbols or the connotations of the symbols themselves, effect changes to the extent that one can be brought into a new and different world.

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INTRODUCTION

The aim of philosophy, as I understand it, is to gather and interrelate knowledge - to make some sense of our world. I undertook this thesis so as to try and make some sense of bits and pieces of knowledge I have found in various disciplines. In the following pages I will be bringing into play aspects of science, religion, anthropology, and psychology in order to give some credence to the notions that we create our lived world, and that we can also change that world.

This will become evident through a description of the move from classical to quantum physics and a discussion of scientific shifts or revolutions. The reason for using physics at this point in the thesis is that many of us consider science to be the most effective method of investigating the world as it really is in and of itself. If absolute answers and/or descriptions of the world are to be found anywhere, many believe they will be found through scientific investigation. What we will find, however, is that such answers are not to be found already existing in the world 'out there', but rather, such answers are found only after we have projected our conceptual frameworks 'out there'. The answers, therefore, are not absolute but

relative to the projected framework.

The next step in this discussion requires us to see what we use to create and maintain our lived world. Along with finding the blocks with which we build our frameworks, we must also find the mortar we use to hold the blocks in place. Within this mapping - this framework - the building blocks are symbols and the mortar is the model or myth. Symbols point to, describe, and maintain aspects of our worlds. Myths and models are the stories and laws we create to pull symbols together into a coherent picture.

Within this understanding of how we create and maintain our lived world lies a doorway towards the changing of our worlds. If symbols are the blocks of our world views, and myths and models the mortar, all we need do is change some symbols, or change some of the relations between symbols to effect a change in the lived world. The method I have chosen for arriving at these changes is ritual. It will be seen that through ritual one can re-organize experience. One can re-focus attention such that the same thing can be seen in a new way thus creating a new image of the world.

THE SCIENTIFIC SHIFT: CLASSICAL TO QUANTUM

In order to make apparent the shifts which can occur in scientific perceptions of reality, we need not look very far into the history of science; we need only look back to the time of Sir Isaac Newton and his conception of reality. It is not necessary, for our present purposes, to spend time and energy describing the events which led to the Newtonian model of nature. Since the changing perspective which I will be describing deals with the move from classical theory to quantum theory, we need only acquire a basic understanding of the classical Newtonian picture of reality and its fundamental tenets in order to move on to the more central aspects of this work.

One of the most basic premises upon which is built the traditional Newtonian picture of reality is that one mirrors reality in the mind as it is presented to the senses. Within this framework, it is believed that nature is precisely mirrored in its one true form through the scientific method of observation. This mode of investigation could therefore render the one true description of reality. Only through "a passive surrender to the object, through the freeing of ourselves from our own constructions, from the 'idols' of the mind..." can the

"...pure image of outer reality be presented to us."¹ By ensuring that every concept of, or statement about an object has a 'precise correlate in the world of reality' (the verification being arrived at through repeated perception in experimentation), the classical scientist was sure that his description directly correlated to the thing being described.

Classical physics also claims that all objects in nature and "... all the properties which can be predicated of them, flow exclusively from the law of their original constitution."² This is to say that all knowledge of an object can be arrived at through an understanding of its component elements. By way of dissecting and analyzing the parts of an object, the whole of the object could be understood. In order to understand how the elements of a whole fit together, classical scientists required a framework which would apply to all interrelations of elements within a whole; a framework which would bring all the parts together in an orderly, coherent, and consistent fashion. This framework consisted of the critical use of logic and the application of mathematical analysis.³ Logic, and especially mathematics were accepted as the most fundamental systems, frameworks, or laws according to which nature carried on its business of existing. Constructs or 'idols' of the mind are weeded out in classical theory. As such, the rules of logic and the mathematical structures

described by the scientists were thought to be absolute structures existing independently of the observer; structures open to observation only under the proper application of perception and analysis, namely, the scientific method.

A question arises at this point: what is the mathematical analysis an analysis of? The answer: motion. "Reality is perfectly understood as soon as it is reduced to a system of motions."⁴ Motion was seen as the natural state of all things.⁵ This, coupled with the conviction that the universe is an orderly, logically consistent system reducible to mathematical structures according to which things move meant that everything could be truly understood and described as a system of motions. The application of logical and mathematical analysis to the motion of things revealed certain basic immutable laws of motion. These basic laws are a natural outcome of the fundamental belief that nature is a logically consistent entity moving in accordance with its inherent mathematical systems. Since the whole of nature was understood as a system of parts which moved in accordance with basic laws of motion, an understanding of each part of the whole in terms of its motion, and an understanding of the effects arising from the interactions of the parts which are in motion, would result in an understanding of the whole of nature. The endeavor of classical physics, then, was to find each piece of the

puzzle called nature, describe and understand it, and then put each of the pieces together to see what the whole picture looked like.

Nature, thus depicted, is a machine - a giant clockwork - which can be understood in its entirety through the dissecting and analyzing mind of the scientist.

Implicit within this conception of reality are the notions of predictability and determinism. Since each and every element in nature is moving in accordance with the specific cause/effect laws of motion, an understanding of these laws coupled with the knowledge of the forces, masses, positions, and velocities of certain elements in nature would present the scientist with the tools necessary to predict where these elements will be at certain times, and how they will interact with other elements. In this light, it is possible to predict anything and everything in nature provided that one has enough knowledge of the elements and their motions. Insofar as everything is predictable, it is necessary to accept a deterministic view of reality. It is only on the basis of the predetermined aspect of the motion of elements, the laws to which the motions adhere, and the like, that one can predict anything at all. It is clear that prediction is possible only on the basis of a predetermined and pre-existing pattern available to the one attempting to predict an event. If there is no predetermined pattern, there is no way to predict how an

element will move, where it will move to, etc. There must be a system of laws to which all things must comply in order to predict events.

Another central tenet of the Newtonian model of reality is that each element of reality is constructed of identical irreducible inanimate bits of matter - atoms. These atoms are the basic building blocks which mix, mingle, and interact according to the laws of motion in such a way as to constitute the composite elements of nature which in turn mix, mingle and interact to constitute yet larger composite elements of nature which, in turn, mix, mingle and interact in a chain ending with the whole of reality.

Within this paradigm, space and time are seen as separate absolute entities.⁸ Time is seen as a continuous, non-relational, constant rate⁹ which acts as a background or framework through which things can be seen to persist or change. Time is like a ruler necessary for the possibility of measuring motion; a constant which holds for all things and thus maintains a consistent smooth-flowing universe. Space is seen as the absolute three dimensional background¹⁰ in which objects are seen to move through time. Space also helps to maintain the smooth continuous nature of reality in that it is the unchanging framework which, when coupled with time, creates the backdrop necessary for the possibility of an orderly understanding and description of motion. If space and time were not seen

as constant and non-relational, it would not have been possible to interpret reality as predetermined and predictable. The basic immutable laws of motion needed something equally immutable to stand on; space and time.

The final aspect of this picture of reality relates to the observer: the scientist. Through the use of various tools which, as extensions of the senses, enhance the perception of reality, the classical scientist in no way disturbs that which is being observed. He passively mirrors¹¹ reality. In clearing out the constructs of the mind, the scientist is left with the shapes, numbers, and motions of elements which objectively exist 'out there', independent of the observer.

The classical Newtonian model of nature, in summary is that of a giant clockwork made up of parts which can be dissected, analyzed, measured, and put back into the clock without disturbing its functioning. The universe is simply the sum total of its parts - no more and no less. Anything which does not conform to this structure is not real; it is merely a construct or 'idol' of the mind.

With the rise of quantum mechanics, the aforementioned description of the constitution and workings of reality have proved to have a limited range of validity and usefulness. Although classical concepts can, for the most part, be applied to the everyday world, they must be abandoned in the atomic and sub-atomic world of quantum

theory. In the wake of the 'new physics', the classical tenets of reality can no longer be accepted as the absolute criteria for reality.

In the following pages I will briefly describe some of the steps which led to the rise of quantum theory and follow this with some depictions of the nature of reality given by various quantum physicists. We will see how quantum theory describes reality and, subsequently, we will find that the new physics requires a shift in the way reality is seen, interpreted, understood, and perhaps lived. It must be noted that the following theories arise from the Copenhagen Interpretation of Quantum Physics. It is a widely accepted interpretation, but it remains controversial.

Quantum theory arose due to the inability of classical physics to explain two anomalies in the workings of the Newtonian machine. These anomalies were: i) why a glowing hot substance only emits certain colours of light, and ii) how light, being a wave, could travel through a vacuum (since waves need a medium in which to wave).¹²

These questions, pursued to their natural outcome, changed the shape of physics and its conception of reality to such a degree that the old physics and its premises could no longer be accepted as the sole criterion for knowledge of reality.

i) In December of 1900, Max Planck presented a mathematical formula accounting for the light emitted from

glowing hot objects. Planck showed that heat energy was absorbed and light energy emitted discontinuously, in lumps.¹³ Although the theory was mathematically consistent (a requisite for classical theory), no one could really picture how it worked. Planck's formula presented a picture in which effect did not flow smoothly from cause; it created a discontinuous picture of reality. Insofar as this conception of events occurring in glowing hot objects did not comply with the continuity expected of nature, Planck's picture did not make much sense.

ii) Light was thought to be a particle until around 1820 at which time Thomas Young performed an experiment in which light created an interference pattern,¹⁴ a phenomenon which can occur only if light is a wave. As a result of this experiment, the search for the medium in which light waved was begun. An experiment conducted by the physicists Michelson and Morley, which on all accounts should have had positive results, failed to detect this¹⁵ medium, the ether believed to be everywhere.

By 1911 it was accepted that light had a wave-particle duality to its nature. This, like Planck's formula, gave a paradoxical, discontinuous picture of reality. Light was understood to be specifically located in one place at one time (particle) and yet spread out over a region of space at the same time (wave). These descriptions are not logically consistent with the classical Newtonian

framework.

Not long after the duality of light was accepted, Niels Bohr found some more anomalies in the classical machine. After the discovery that the atom was not a basic building block - that it too had a structure - and after the structure was found to be that of electrons orbiting a nucleus, the question of how an electron could maintain a stable orbit around the nucleus was posed. This question arose due to the fact that an electron, if continuously emitting energy while in orbit, would crash into the nucleus.¹⁶ Why, then, does the electron not collide with the nucleus? Because it does not emit energy continuously.

Bohr found that an electron radiated light energy discontinuously, when it made an orbital leap.¹⁷ The oddest thing about this 'quantum leap' between orbits was that the electron jumped orbits without passing between them. What happened to the logically consistent cause-effect structure and the spatio-temporal framework in which the atom exists?

Bohr came up with the Theory of Correspondence to account for this oddity. This theory states that when the orbital jump made by an electron is relatively small, quantum rules coincide with classical rules. In other words, while viewed above the sub-atomic level, nature appears continuous, and at the same time, when viewed sub-atomically, it appears discontinuous.¹⁸

The next step in the dismantling of the classical machine was the acceptance of the wave/particle duality of matter. The wave aspect of matter was seen as a mathematical construction; a probability function. This is to say that there is no way to predict where a particle will be - there are no strict laws governing the relations between motion in atomic and sub-atomic phenomena. There are only probabilities relating to where a particle might be after a given time and a given interaction with another particle.¹⁹

It is here that Werner Heisenberg's Uncertainty Principle fits into the newly emerging picture of reality. First, according to this principle, it is impossible to know both the momentum and the position of an electron with certainty. Second, the act of observing an electron causes it to undergo a discontinuous change in terms of its probability function or wave aspect. The act of observing an electron causes its future possibilities of momentum and position to change. The final, and perhaps most difficult aspect of this theory to understand, is that the position and momentum of an electron come into existence²⁰ only when one observes it.

Under the light of Heisenberg's principle, the assumption that the world is predetermined and predictable, along with the assumption that the observer mirrors and does not disturb the observed, can no longer be accepted as the

only valid modes of interpreting, understanding and explaining reality.

We have seen that causal continuity, determinism, predictability and the undisturbing passive observer have been denied applicability in quantum theory. Let us now move on to see where the remaining tenets of classical physics lose their reign over reality.

With the acceptance of Einstein's Theory of Relativity, the classical conceptualizations of space and time lost their foothold as fundamental properties of reality. Relativity showed that space and time, rather than being absolute, non-relational constant aspects of reality, were intimately connected in a four dimensional continuum. Space and time became measurements purely relative to the
²¹
 observer.

According to this theory, something moving at hyperluminous speeds (if it were possible) would have its effect (in terms of cause/effect relations) seen before its cause. Our traditional perceptions of cause/effect
²²
 relationships would be overturned.

A thought experiment known as the Einstein, Podolsky, Rosen (EPR) Paradox was used by these physicists in an attempt to show that the quantum picture was incomplete; that something was missing which, when found, would make mechanistic sense of quantum phenomena.

The EPR Paradox shows that quantum theory, if it is

correct and taken to its logical conclusion, would result in two unacceptable events. First, two particles which have previously interacted can instantaneously effect each other after having been spatio-temporally separated, and second, for this to be the case, the theory of relativity (which is the basis for our causal understanding of reality²³), is untrue. Theoretically, one particle which has interacted with another particle in a certain way maintains a 'quantum link' with that particle; a link not subject to our everyday limits of space and time. The act of observing and measuring one of these particles causes the other particles²⁴ quantity to be instantaneously affected. This paradox, meant to denounce the authority of quantum theory on the grounds of its unreasonableness, may have had the opposite effect.

There are physicists who continue to search for a hidden variable - something that would make sense of quantum phenomena and thus bring the reality picture back to a continuous mechanistic one. Up to the present, no such variable has been found. The physicist Bell, in fact, has shown that any such hidden-variable theory would reveal an even worse order. His theorem showed that any such theory describing a deterministic world would necessitate the acceptance of non-local causes - causes bordering on the 'psychic' or 'quantum link' idea brought forth in the EPR experiment.

Niels Bohr cited the EPR paradox as one of the reasons for creating the Theory of Complimentarity. According to this view, there is no clear dividing line between ourselves and that which is being observed at the quantum level. Atomic reality depends on what and how we choose to observe.²⁵ It is also maintained that there is no reality until that reality is perceived.²⁶ The world is not so much an objectively existing, separate and independant thing 'out there', as it is a world existing in accordance with the picture we have of it in our minds. Perhaps 'idols' or constructs of the mind are not only unavoidable, but also integral aspects of the landscape we call reality.

Complementarity also claims that the reality we observe is an unbroken wholeness which appears paradoxical when one attempts to create a history of observations. The paradoxes are the result of a clash between two contrasting mental constructs of the appearance of reality. When viewing matter as a particle or as a wave, it does not seem paradoxical. Only when both views are brought together does the paradox arise. In this light, the EPR Paradox would not be problematic insofar as wholeness implies oneness, and in oneness, space and time lose their meaning. In oneness there is no need for any sort of signal or object to pass between two apparently spatio-temporally separated objects. On the basis of an underlying wholeness, instantaneous effects such as the one mentioned in the EPR Paradox would

make sense - there would be no need for something to travel at lightspeed because the wholeness is already at both places at the same time - the wholeness is both places at the same time. Taken within the lens of the Theory of Complementarity, we can choose to see such an instantaneous effect as unreasonable and/or impossible due to the separation of two particles in space and time and the Theory of Relativity, or, the same situation can be looked at in terms of wholeness and thereby make perfect sense.

The 'field' interpretation of reality, along with other modern views of atomic and sub-atomic particles lend even more credibility to the general notion of reality as a unified interconnected whole. According to field theory, the void in which particles were thought to move is not empty. Rather, it is a dynamic quantity: an electrodynamic field in which a photon is the particle manifestation of electromagnetic waves.²⁷

"The quantum field is seen as the fundamental physical entity...which is present everywhere is space. Particles are merely local condensations of the field...which come and go, thereby losing their individual character and dissolving into the underlying field."²⁸ Matter, as such, is a region of space where the field is extremely intense; "there is no place...for both the field and matter for the field is the only reality."²⁹ Within this view of reality, physical objects are the transient

manifestations of an underlying fundamental entity.³⁰

We have already seen that atoms are not the solid indestructible bits of matter as originally thought by classical physicists. With the use of particle accelerators, it was found that even the sub-atomic particles within the structure of an atom are not irreducible, indestructible bits of matter. These sub-atomic particles can be created, changed, and annihilated.³¹

The whole of the atomic world is seen as a rhythmic dance of colliding particles coming into and going out of existence.³² Along with having no static nature, particles cannot be seen as separate isolated entities which can be taken apart, analyzed, and thereby afford one an understanding of the part and eventually an understanding of the whole machine. The machine is not made of such constant, irreducible, separate, and analyzable parts. The machine cannot even be seen as a machine any longer. Matter is simply a continuous, dancing, vibrating, motion with rhythmic patterns.³³

The Special Theory of Relativity which is used in descriptions of sub-atomic phenomena lends even further support to the aforementioned notions of particles being everchanging vibrational patterns or events rather than static bits of material. This theory states that mass is equal to energy. Energy, within this view, can change forms, but the total amount of energy involved in any

process or change of process remains the same.³⁴ Mass is a form of energy - a bundle of energy - with a space-time aspect. Mass is a continual dance of energy for which activity constitutes the essence of its being.³⁵ Sub-atomic particles thus understood, are patterns - they are events,³⁶ not objects.

The classical conception of reality as something 'out there' which is absolute and is precisely mirrored through the mind when approached purely within the realm of logic and mathematics is no longer acceptable. All matter consists of a wave/particle duality. There is a hidden complementary side to any experience in this realm; a side which becomes real, or actually present, when it is revealed.³⁷ The act of revealing through observation actually causes the reality of the particle to change from its potentials as described in the probability wave function to an actual particle which in turn alters the future possibilities of the particle observed.

Quantum physics tells us that we no longer can see the world as an objectively existing, independent reality which can only be seen in one way; the one true method of observation and description being the traditional classical mode of science based on positivism, objectivism, and strict empiricism. We are beginning to be forced to accept that "nature will respond in accordance with the theory with

which it is approached..." and that "theories are everchanging forms of insight giving shape and form to experience in general."³⁸

If, as Heisenberg says, "what we observe is not nature itself but nature exposed to our method of questioning,"³⁹ we must accept that what we consider to be a correct description of the world may not be what another person with another method of questioning might consider a correct description. One method of questioning may be accepted as more valid than another, but there is no way to say with absolute certainty that the accepted method is correct. We have seen that whole theories can be accepted as valid, and can then be overturned or at least found limited in thier application. As anomalies arise, theories change or fall apart. Since one cannot say that anomalies will never again occur, theories can never claim to have the definative description or method of questioning.

There are different ways of seeing what is encountered in the world as is evident within physics. If we have different conceptions of how atomic phenomena work, is it not possible that we also have different ways of seeing and understanding reality at a more macroscopic level? Is it not possible that we have different versions of reality? I am not saying that because this is true of science it is true of reality in our everyday lives. This is not a logical conclusion. I am only suggesting that we

look beyond the barriers we raise when thinking we know the absolute truth. If physics, a supposedly accurate method of questioning is subject to the aforementioned parameters, perhaps it will help to open us up to looking at the possibility that there are different visions of the world. I am not suggesting that what is encountered in the world may be different, but that our method of encountering may be different, and our experience of reality as it is encountered can thereby be different. If, as is often the case, we take our method of questioning and observation as definite aspects of reality, we are confusing a map, a method of understanding - an encountering - with the terrain - with the encountered. We often assume that our projections of our understanding onto the world are actual aspects of the world rather than a part of the world focused on and understood by this method of observation. For the most part, we deny the existence or validity of any other method of understanding or focal point of understanding. We therefore find discrepancies in descriptions of reality as is the case with classical and quantum physics (although many of the discrepancies have been reconciled and the validity of both theories is accepted within their parameters). If we look at mystical and positivistic theories of reality we see mutually exclusive descriptions, and yet, adherents to either view would claim their methodology to provide the right description for the world.

Who is to say which view of reality is the right one? Is there one true or right description of the world? Is there an all encompassing epistemic grounding network to which we can turn for these answers? I think not, and in the following chapter, I intend to show why.

Before moving on, however, I must reiterate the two most important points arising from the discussion of quantum theory. "What we perceive to be physical reality is actually⁴⁰ our cognitive construction of it." "What we experience is⁴¹ not external reality but our interaction with it."

SCIENTIFIC PARADIGMS: MAKING SENSE

In order to elucidate the concept of changing world views within the scientific community, and in order to see how the world as encountered is dependant upon the cognitive structures with which it is approached, we will examine Thomas Kuhn's ideas on the structure of scientific paradigms and paradigm shifts (scientific revolutions). This will be followed by a discussion of Paul Feyerabend's understanding of the need for epistemological anarchism. It will be shown that scientific revolutions are necessary for our society to continue growing and learning about the world, and we will see that the path leading to this growth requires the suspension of accepted rules of research along with their concomitant standards for truth. We must, if we wish to grow, be willing to accept seemingly nonsensical alternatives to understanding our world, alternatives which need not fit into preordained conceptual boxes.

Within the ensuing discussion we will see how 'facts' are what they are due to their basis in a theory - within a certain conceptual framework labeled as accepted and true of the world. We will see that our whole understanding of reality is rooted in such frameworks, and in turn, we will find that there are other boxes into which different 'facts' can fit; other boxes which in turn

constitute a different world - a different reality which requires a different approach to the world and a different relationship between the various aspects of the world.

Throughout the course of this discussion it would be worthwhile noting how the previous chapter's mention of the movement from classical to quantum mechanics fits the structure of scientific paradigms and revolutions. This movement is a case in point for the necessity of scientific revolutions in the search for a more comprehensive and coherent understanding of the world.

I have already made the claim that our reality, what we understand of it, and what we see of it depends on the ideas we have of it. It depends on the theory with which we approach the world and the conceptual boxes within which we place the aspects of the world the theory allows us to acknowledge. In the following pages we will see how theories delineate the boundaries of experience and dictate rules and guidelines for statements of truth.

A most important point to keep in mind in this chapter is that there is a more-or-less arbitrary decision involved in accepting a theory which determines the realm of reality believed to exist; a decision not grounded in any supreme epistemic structure according to which all things must adhere to be real, valid, or true.

Thomas Kuhn in The Structure of Scientific Paradigms

describes normal science as a time in which scientists are 'busily doing research' firmly rooted in achievements which a particular scientific community acknowledges as supplying foundations for its further practice.¹ In such a time, scientists are working according to accepted theories which they have learned through textbooks expounding the beliefs of their profession. As such, this aspect of scientific investigation requires that one believe one's present scientific community to know what the world is like. This period of science is, for the most part, constituted by research, an activity Kuhn describes "as a strenuous and devoted attempt to force nature into the conceptual boxes supplied by professional education."²

In times of normal science we find a paradigm - a structure which guides and forms the foundation for describing the world. It provides the model from which arises a "coherent tradition of scientific research."³ In a period of normal science, practitioners arrive at a consensus in which all commit themselves to the existing paradigm. All agree to the work of forcing nature to fit the structure of the world denoted by that paradigm.

In lieu of the fact that most of science involves research which puts nature into preconceived conceptual boxes, abnormal phenomena which do not fit into the boxes or cannot be explained by the existing theory are often times not seen at all.⁴ This is due, for the most part, to the

paradigm closing off many possible modes of seeing and experiencing the world. Looking at the world through a specific paradigm is akin to looking at something through a microscope. It focuses on something in great detail, and with such clarity that one can be extremely articulate in one's description, but anything outside the narrow scope of the microscope is not seen. Most scientists "do not usually ask or debate what makes a particular problem or solution⁵ legitimate." Throughout their education, scientists have learned about the accepted paradigm through its concrete application in experimentation. They have been guided by it. They accept it, follow it, and work to propagate the paradigm by forcing more and more of nature into its grand schemata.

It is only when anomolous facts arise or when theories fail repeatedly that scientists begin to question the legitimacy of an existing paradigm, and this only after extensive work has been done to fit the anomaly into the existing paradigm in some way.

Paradigms "restrict the phenomenological field accessible for scientific investigations at any given time,"⁶ but it is through this that we find the doorway to new theories. The importance of new facts is resisted in the search to find a way to incorporate them into the existing theory. However, and here is the root of the paradigm's own disintegration, "anomaly appears only against

the background provided by the paradigm."⁷ By disintegration I mean that the precise interrelations within a theory begin to fall apart. With the rise of anomalies, the integral structure of a paradigm loses some of its cohesion. An anomaly is seen as something unexpected in a highly determined backdrop of precise expectation. It is only against the scenery of a precisely delineated field of expectations and predictions that the unexpected can arise and be seen.

Since paradigms, in guiding research, put limits on acceptable theories and restrict the range of acknowledged phenomena, a paradigm must change if it is to incorporate new facts or anomalies which simply do not fit. In order for an anomaly to become accepted and expected fact, the paradigm for which it is anomalous must go through a shift in its form of conceptualizing, categorizing and organizing the world.

When anomalies arise, or when theories no longer fit the facts a crisis arises. A new paradigm is required or new theories accounting for the new facts while still incorporating the old accepted facts are needed. The old facts must be included in any new theory or paradigm, otherwise, the theory would not cover the known field of experience, and would therefore not be an acceptable hypothesis describing the world. Thus "crises begin with the blurring of a paradigm and the consequent loosening of

the rules for normal research."⁸ With the loosening of the rules of research, scientists try out new theories and work to solve the anomaly, that is, they work to create a paradigm which, when placed on nature, accounts for the problems arising from the old paradigm. After a time of searching for a structure into which to fit nature, a debate can arise as to which of the new approaches will be accepted as the next paradigm. As Kuhn states, "the decision to reject one paradigm is always simultaneously the decision to accept another and the judgement leading to that decision involves the comparison of both paradigms with nature and with each other."⁹ Through the process of changing or shifting paradigms comes "a reconstruction of the field from new fundamentals;" the result: "handling the same bundle of data as before, but placing them in a new system of relations with one another by giving them a different framework."¹⁰

It is only with paradigm changes that new discoveries can be made in science.¹¹ Although anomalies arise when nature refuses to fit into preconceived conceptual boxes, it is only when a new paradigm or theory is accepted that new discoveries, new relations, and new applications of theories are cultivated.

Classical Newtonian physics could not explain how light moved through a vacuum nor why glowing hot objects produce only certain colours of light. Theories were found

to account for these anomalies, but the theories, in turn, did not fit into the existing Newtonian paradigm. These 'facts' coupled with sub-atomic research and Einstein's theory of relativity created the necessity of a new paradigm. Relativity meant that space and time no longer could be seen as the absolute unchanging backdrop in which Newton's world of precise expectation and prediction occurred. They became phenomena relative to the observer. The quantum paradigm required a conceptual shift in the way physicists viewed the world. In a sense, they were forced to see a new and different world; they had to relearn how to see matter and energy, time and space, and their place as disruptive observers etc. As Kuhn so neatly puts it, "the transition from Newtonian to Einsteinian mechanics illustrates with particular clarity the scientific revolution as a displacement of the conceptual network¹² through which scientists view the world.

Before continuing, the distinction between 'the world' and 'a world' must be clarified. 'The world' specifies the reality which we all encounter in our experience. 'A world' is meant to indicate that 'the world' is interpreted within the scope of some paradigm or theory which dictates the way in which 'the world' is seen.

A paradigm shift requires a different ordering of the phenomena encountered in the world such that we conceive their relations and interrelations differently. We create

new conceptual slots into which nature is forced, and thus, "the scientist's perception of his environment must be re-
¹³educated." He must learn to see differently; he must learn how to see a new and different world. Although that which we may encounter in the world does not change with a change of one's way of ordering the world, "with a change of paradigm, the scientist afterward works in a different
¹⁴world."

In times of scientific revolutions we have different scientists adhering to competing paradigms; some to the old, others to the various newer paradigms. In so far as they accept different paradigms they "practise their trade in different worlds...Practicing in different worlds, the two groups of scientists see different things when they look
¹⁵from the same point in the same direction." In lieu of this, scientists may often have a hard time discussing and communicating their procedures, systems of verification and legitimacy and the like - it is difficult to discuss something another is not even seeing. In that "there can be no scientifically or empirically neutral system of language or concepts...theories must proceed from within one or another paradigm-based traditions," and, "thus restricted it [the theory] would have no access to all possible
¹⁶experiences." For one paradigm to succeed in being accepted, it must convert all scientists to its way of seeing and conceptualizing - of mapping the world. In so

far as scientists working from within one paradigm cannot see another paradigm without his own biases and paradigmatic concepts, they must, in order to truly see the world according to the other paradigm, believe it works and jump out of their paradigm into the new one. They must believe that their old paradigm will no longer work, and that the new one will. There is no way to prove that a new paradigm will work - to do so would require years of normal science and research - years of squeezing nature into new boxes. In this light, any scientist at times of scientific revolution, "must have faith that the new paradigm will succeed with the many large problems that confront it, knowing only that the old paradigm has failed a few. A decision of that kind can¹⁷ only be made on faith."

What we end up with as the final determining factor in regards to which way to turn next in our search for understanding the world is the hope that the new paradigm will lead us aright. Even though the process of accepting a new paradigm involves speculation about how old facts will fit into the new view, the whole process ultimately rests on belief. Any proof that the new paradigm will work can only be arrived at after accepting the paradigm, since proof requires premises, and the necessary premises are found within the paradigm in question.

In so far as a change of paradigm is based on the commitment of scientists to the belief that the new paradigm

will work better than the old, "we may have to relinquish the notion...that changes of paradigm carry scientists and those who learn from them closer to truth."¹⁸ The new paradigm simply works better for now. It seems to me that we are moving along according to one basic principle: "if it works, use it, if it doesn't, dump it".

In the following pages I intend to show that this is precisely what we need to guide our ways of theorizing, ordering, and living the world. ('Living the world' is a term I use to denote the notion that we experientially constitute the world with our categories, expectations, perceptions etc. It is another way of saying we encounter the world within a certain framework, and this framework expresses the way in which we live the world.) If living a certain world view does not work, why not change it so that it does? As Kuhn says: "different stimuli can produce the same sensations; the same stimulus can produce very different sensations; and finally, the route from stimulus to sensation is in part conditioned by education."¹⁹ This is to say that we learn how to see and understand that which we encounter in the world according to the rules of the prevalent paradigm - we are taught how to stuff nature into certain conceptual boxes. I would venture to say that we continue to do so almost out of habit. We have to interpret what we encounter and we do so according to the guidelines put forth by our present ideological framework.

"Interpretation begins where perception ends...and what perception leaves for interpretation to complete depends drastically on the nature and amount of prior experience and training."²⁰ If we have been trained to see and live a particular world, chances are that that is the world we have been living. To change a world, then, would require an internal change in the belief of how the world really is to be seen - a change which is caused by a lack of faith in the old world ordering and its ways to solve certain basic problems, to account for certain phenomena etc.

Paul Feyerabend's views on epistemological anarchy are integral to this discussion of world orderings, paradigm shifts, and the possibility (or perhaps even necessity) of different world orderings. If we wish to gain a more comprehensive understanding of our world and the ways in which it can be lived, and since "all methodologies, even the most obvious ones, have their limits,"²¹ we must be willing to challenge and even cross over the limits of the various theories describing reality and its constitution.

In Against Method, Feyerabend discusses science as a changing set of rules and methods with no absolute objective right to the claim of being the one true way of describing reality. One of his main contentions is that science, in order to progress cannot do so by following strict rules of critical rationality, rather, "the only

principle that does not inhibit progress is: anything goes."²² In the pursuit of knowledge of the world, the only way to progress is to accept epistemological anarchy - the doctrine that theories about nature need not follow in strict accordance with the rules of rationality. In fact, "our chances to progress may be obstructed by our desire to²³ be rational."

Why is it that Feyerabend thinks epistemological anarchy is a necessary ingredient of growth? There are two reasons. The first arises from the history of science. If we look at the movement from a geo-centric to a helio-centrally conceptualized world, we can see that the shift was not a rational progression, but rather, the result of certain 'irrational traits' such as prejudice, passion, conceit, and pigheadedness.²⁴ The reason for the need to overrule reason is quite simple. To break free of a tradition upon which has been built a certain structure of the universe, a structure with a closed circle of reasoning which fits the accepted facts, one must break away from the circle - one must step outside of the accepted views and reasons for these views and make statements which are seemingly irrational. Seemingly irrational because they do not fit into the rationale exhibited in the prevailing tradition. The one who breaks from the tradition, who sees the world, its parts and its interrelations differently must be conceited enough to believe he is right and prejudiced

and pigheaded enough to stand by this claim long enough to have others look at the world in the same way. He must remain pigheaded and create theories which fit into the seemingly irrational view he has conjured until, finally enough theories and reasons are present to make what was initially a non-sensical move perfectly sensible - to make the new view make sense and fit into the facts and thus, it becomes, perfectly reasonable.

Another reason for the necessity of being irrational with regard to progress rests on the nature of facts. Feyerabend points out that we "find that science knows no 'bare facts' at all, but that the 'facts' that enter our knowledge are already viewed in a certain way and are, therefore, essentially ideational."²⁵ "Observational reports, experimental results, factual statements, either contain theoretical assumptions or assert them by the manner²⁶ in which they are used."

If we look closely, we find that all statements of fact are based on a preconceived ideology - a belief that this is the way the world is and, as a matter of course, this is the way the world appears. We project our ideology onto the world we encounter, and in this process, we look for what we believe to be out there, and, sure enough, we find it. We have learned to expect certain things of the world, we learn to see certain things, and it is through this veil of expectations that we see and understand our

world. Our expectations act as filters which cut out anything not fitting our ideas of the world. In this light, what we experience is not necessarily what is going on in the world but rather, what we think is going on. What we see and experience of the world we do so through the mediation of our concepts, definitions, and ideas about the world - the ideology with which we approach the world and which we project onto it. In this sense, any and all 'facts' in nature are endowed with the limits, rules and guidelines of the projected ideology. The 'facts' are virtually created to be what they are. We can only see them on the grounds of our theoretical assumptions and, at the same time, we can only see them as exhibiting the order and aspects we project onto them. The success of a theory of nature in science is thereby "entirely man-made."²⁷ The empirical evidence for a certain theory is, as it were, created by way of choosing how and what to look at and thus, we create what we see based on what we want to see. Such evidence is in turn used to support the theory which is based on the facts as they are seen which are themselves created and dependent on the theory which they are the evidence for. We have, then, a closed circle - a circle of reason and rationality which fits the facts and makes sense.

This sort of circle presupposes the projected ideology to be true and, for the most part, no one ever questions such basic ideologies and theoretical frameworks.

Unless, of course, there arise certain discrepancies and anomalies which can no longer be shunned and/or avoided - when the anomalies force one to look at one's theoretical - ideological framework and subsequently question its validity.

It is because of the closed-circle nature of our understanding of the world that irrationality, pigheadedness, prejudice and conceit are necessary for continued growth in science. We have been seeing that our experience of the world is really the experience of our conceptual framework projected onto the world, that "experience arises together with theoretical assumptions,²⁸ not before them." One cannot create a new theory of the world while at the same time remaining within an older framework. In that facts are, as it were, created to fit an ideology, "a straightforward and unqualified judgement of theories by 'facts' is bound to eliminate ideas simply because they do not fit into the framework of some older²⁹ cosmology."

The only way for a new theory to come about, then, is for one to step outside of an older ideology and see the world through new eyes - through a new theoretical ideology by which one constitutes facts in a different manner. So long as one sees an older ideological network as true, as making sense, as bound to reason and rationality, one must appear to be irrational in order to pursue a new course - in

order to project a new order and a new form of sight onto the world.

In order for science to progress, to grow and understand our world better, we must be willing to allow people to step outside of accepted methods, norms and views. We must acknowledge seemingly nonsensical views in order to find out if they have some validity - some use in understanding and coping with our world. Only on the grounds of epistemological anarchy can we hope to gain newer more useful views of nature. We must learn to accept that "the inventor of a new world view...must be able to talk nonsense until the amount of nonsense created by him and his friends is big enough to give sense to all its parts."³⁰ Irrationality, nonsense, and "madness, turn into sanity provided it is sufficiently rich and sufficiently regular to function as the basis of a new world view."³¹

With regard to the preceeding discussion of scientific paradigms and revolutions, we can see that a scientific revolution fits in here as the result of a seemingly 'irrational' person denying the 'facts' and creating a new paradigm. The only way for a new paradigm to emerge is to break free of the rules governing a paradigm and to create a new theoretical framework with the possibility of new rules and standards for research and truth; rules which cannot be accepted as objective and absolute requisites for statements of truth. Rather, these

new rules are simply the rules which work within a new domain, which are limited to this domain, and which are thereby only true of a new way of looking at the world. One must be able to free oneself from the rules encompassing a paradigm since, in most cases, they prevent one from stepping outside the limits of a particular paradigm. As Kuhn maintains, in times of normal science, the scientist works to make nature fit into the accepted scientific schemata. If we look at the quantum theories created by Planck, Bohr, and Heisenberg, we can see that they had to step outside the Classical Paradigm and create new rules governing the interpretation of sub-atomic phenomena. Rules, for the most part, govern the limits of accepted phenomena as well as the approaches to understanding the phenomena. If breaking free of a tradition requires new rules, then new rules too, must be accepted. The rules, then, are only true of the particular ideology and theoretical framework of which they are a part. As such, these rules must not be taken as the right ones for objective truth, the ones we have been waiting for. These new guidelines can, and eventually must be broken in order to progress further in our understanding and ability to cope with our world. It seems we need epistemological anarchy if we hope to learn more of our world, if we hope to cope better with our world, and, with regard to our present relationship with the world, if we hope to live and not destroy everything we have

available to us.

I hope to have shown that nature can be approached under many theoretical frameworks, that it will accept many projected ideologies provided the projection can bring enough of the aspects of the world under its lens and into its framework for it to make sense. My contention is that this 'fact' coupled with epistemological anarchism invites new world views - views which may better help us to cope with our world - with our ills. Although our discussion to this point has been devoted to science, is not the only way to approach nature - "there are myths...there's metaphysics, and there are many other ways of constructing a world view."³² "Science is only one of the many instruments man³³ has invented to cope with his surroundings."

If we look to our society, we see a culture based on science; a society brought up, educated, and even conditioned by science as it is taught throughout our educational system. We, for the most part, do not have a choice in the matter. We must study science in our schools. It is a mandatory requisite for graduating into the world of the educated adult. It is a part of our rite of passage into adulthood. It thereby shapes the mentality of its³⁴ students and practitioners. We are brought up with the ideology that science is the only 'real' way to approach, describe, and deal with our world. Any other approach is questionable, if not downright ridiculous nonsense.

Nonsense.

It is clear that specific scientific approaches have no claim to superiority over 'truth' in that there are various competing paradigms, all of which work under certain limitations, and fail to work under other limitations. I think this to be true of the scientific enterprise as a whole as well. It works within its domain, but outside of this realm, it fails to account for certain phenomena. Faith healing, shamanic and spontaneous healing, mystical experiences and the like do not, for the most part, have a place in many of our scientific paradigms. Some would likely not even admit the occurrence of such phenomena in that they do not fit within the scientific perception of reality. For millenia, people have found ways of ordering the world which are flagrantly opposed to the scientific view of nature; ways which worked well for the people concerned. If science works for our society in many cases, it does not mean that science is the one true way of describing reality for everyone. Paranormal phenomena continue to occur, and for such phenomena, frameworks other than science must be looked at. In order to understand our world more clearly, we not only must look at different scientific paradigms, we must also look at different world paradigms; different world views.

If we look to "the ordering principles of myth, religious enthusiasm, abnormal experiences, one will be

strongly inclined to believe that there are many different ways of approaching nature and society and...of evaluating the results of a particular approach, that we must make a choice, and that there are no objective conditions to guide us.³⁵"

Insofar as we get what we want from the world through the process of projecting our preconcieved ideas onto it in the form of ideological and theoretical frameworks, we must decide (on the basis of our experiences) which framework to see the world in. We must decide if we see the world as a living entity, as a conglomerate of inanimate matter, as spiritual, planned and maintained by a god, as a random occurence of chemical processes, etc. If we want to account for our experiences of reality, we must choose a paradigm which makes sense of our experience in the same way that a scientist must choose a paradigm which makes sense of his data.

Our next step in this work is to see that from which we create our paradigms. We must uncover what we use to describe and delineate the boundaries of our world views; the thing between us and whatever is out there which we understand through our paradigms.

ABOUT REALITY, BUILDING BLOCKS AND MORTAR

Our western, scientifically grounded world view cannot be considered as the one true description of the world. I am in agreement with Nelson Goodman in maintaining that "...truth must be otherwise conceived than as¹ correspondence with a ready-made world."

We have seen that within science, one's viewpoint, ideas, and intentions create that which one sees at the sub-atomic level (wave/particle duality, Uncertainty Principle, etc.) We have also seen that the particular ideological framework with which we approach the world dictates what we see of the world. What we see and understand is limited to the parameters of our paradigms. Even the view which purports to have reached a true view of the world has within itself various opposing views - views which seem to claim that the world is seen according to how one approaches it. "We see mostly what we expect to see, what we know how to² see on the basis of our past experience."

In order to make apparent the possibility of re-making the world, we must first find what we use in concretizing and making actual a specific world version; we must search out the building blocks used in the creating and maintaining of world views. It is at a fundamental level

of our experience that these answers are to be found. It is the place upon which we conceptually stand, unthinkingly, as we go through our life experiences. What we stand on, and how we hold together what we stand on are the topics of this chapter.

That which we stand upon, which we hold on to and keep concrete through our lives is our world view, our image of the world, of ourselves, and of our placing within and relationship to the world. "Our only contact with the external world comes through our perceptual processes and the images they show us."³ The image we have of the world is not something ready-made, objectively existing 'out there' except as a cultural model and thereby relative and collectively subjective. The image is a structure created by our culture; a set of conceptual boxes projected onto the world through which the world is encountered. It is a consensus oriented, socially agreed upon approach to the world. We do not perceive things in terms of colours, shape and size - raw undifferentiated sense impressions, if you will. We see the world in terms of images and models which we have taken from our culture. We live the world as we know it "because its the one we learned how to create from our culture."⁴ We learn our cultural models throughout our lives, we apply these models to the world, and then "perceive those models as the reality they only imperfectly represent."⁵ These models through which we see the world

act as filters or lenses which dictate the perceptions we accept as being of the world. We thus "create our own realities by the choices we make in perceiving and interacting with the world around us."⁶

Some might grant this and yet maintain that scientism really has found the one true objective reality. I am in keeping with Ralph Strauch, author of The Reality Illusion in saying that to think other cultures "functioned so well for so long with invalid belief systems, while we in our relatively short and unstable tenure, have somehow cornered the market on truth strikes me as the ultimate in cultural conceit."⁷

Insofar as we live the world within the boundaries of our world view, we actively sort out those aspects which we accept of the world, focus on those aspects, and look away from other possible models of reality. Within the idea of accepting a world view as true, lies the notion of belief; belief that the model with which we represent the world is true. The belief can be considered to rest on 'facts', but then facts are couched within theories which dictate how the world is to be seen, conceived and understood. Just as scientific facts are couched in theories which see the world in a certain light, and are thereby a result of a belief that the theory is true, the facts upon which we can ground or support a specific world view are, necessarily, the result of looking at the world

through the model the facts are supposed to support. We end up with a self perpetuating circle in which facts support a specific world view, and the world view it is supporting must first be accepted, to see the facts within the light which allows them to support the model. If we cannot use a fact to support a theory, without looking through that theory to see the facts as supportive, there can be nothing other than the belief in a world view when accepting it as valid and true. In this light, any claim to objectivity or absolute truth loses its objectivity and absoluteness; it all boils down to belief.

This brings us back to the question: what are those blocks which we put together to make a world view? My answer is the symbol. By "symbol" I mean something which carries with it a meaning which is at the roots of our beliefs - which connects with that level of our being wherein we make our choices of what to acknowledge the world as being. It is that basic underlying reality - the world - that we categorize and put together into a world view with the use of symbols. Symbols are the building blocks, the constituents of our world view while, at the same time being the instruments we use to construct our views. They are the pieces we use to focus on and concretise certain perceptions of the world thus serving a twofold function. We use them as instruments to construct a world view and in this use, they become the pieces of our world views. As Ernst

Cassirer claims, "all mental processes fail to grasp reality itself, and in order to represent it, to hold it at all, they are driven to the use of symbols."⁸ He goes further, stating that before intellectual activity and understanding can arise, "the work of naming must have preceded it. For it is this process which transforms the world of sense impressions...into a mental world, a world of ideas and meanings."⁹ It is my view that the naming occurs, at a most fundamental level, through symbols which give us something to grab hold of. They provide the basis we need in order to create ideas, theories, categories and the like.

The symbols I am pointing to are those of which Mircea Eliade states "these are symbols that give pattern to the World, shape it by naming its parts (giving language through which reality is thus experienced) and give it coherence by interrelating the parts and the whole."¹⁰ He goes on to say "no one escapes such patterning, though it is easy to forget that reality is socially constructed and to equate reality with a particular perspective upon it."¹¹ Joseph Campbell says of such symbols that they "touch and exhilarate centres of life beyond the reach of vocabularies of reason and coercion."¹² They are in the reach of belief alone. It is at this level that we maintain our realities by accepting certain symbols which describe our world in a certain way and thereby filter our perceptions of the world in its image. The symbols by which we live are the ones in

which we believe, the ones we believe to be true impressions of the world. We choose our symbols in the same way we might choose to believe in a God. It is not a rational choice. The choice is one of faith - a leap of faith into believing something to be true. The symbol itself is not chosen. It is already available to us through our culture, or it arises unconsciously. In many cases, there is no choice involved in accepting symbols. They are, for the most part, accepted unknowingly. Only if we question our symbols do we see them. We can then see that there are many others, and that we can change the symbols by which we live by believing in others.

The symbol is like a mediating device between 'ultimate' or 'direct' reality and the experience of that reality as described.¹³ It is the device through which reality - the world - becomes 'graspable'. It expresses our way of ordering or patterning the world and thereby expresses our beliefs of what reality is.

"Symbol" may be too limited a term for my purposes, however, I will clarify my meaning and proceed with this clarification in mind.

Many of us, when we hear the word 'symbol', think of religious symbols such as the cross, the Yin-Yang, or perhaps symbols along the lines of mathematical representations, as is the case with the symbol for infinity. For my purposes, 'symbol' does relate to these

forms of symbolic representation, but it extends to other realms. My meaning is simply that of representation in any form. It is my view that we cannot experience anything in this world in itself. That is, our experience is always in terms of our framework, ideology or paradigm. As the previous chapters indicate, even a bare fact is couched in preconceived theoretical frameworks. There is a theory, a set of conceptual boxes through which we encounter and understand objects of experience. In so far as we can never get to an object in itself, we must point to it in some way. In this pointing we are meaning or intending a certain perception of the object. When pointing to something, we use various devices: words, pictures, theorems, images etc. They all point to some object which we know and hold in common, and they represent that object in terms of the attributes we believe to belong to it. The symbol points through itself to the intended object; it is the means for portraying that which we experience. I also extend this view to include the conceptual boxes within which we classify the objects of our experience. Concepts such as colour, shape, size, density, weight, etc., I would also classify as symbolic representations of certain conceptual aspects, which fit into our experience of the world. As such, colour is a symbol which points to a certain way of classifying an object of experience. Virtually everything we utter is symbolic. Everything we can know of the world

is in terms of symbolic representations which point to certain accepted classifications of experience. Since we cannot see, understand, or speak without our conceptual classifications, all awareness, knowledge, and communication is symbolic in terms of representation. As such, I feel justified in saying that our lived world is created out of symbols - pointers which symbolically indicate what we, as a culture, have agreed to let them represent.

With this clarification (or classification) of the word 'symbol' in mind, let us move on to some anthropological perspectives of the symbolic enterprise.

In Symbolic Classification, Rodney Needham states that a symbol is something which stands for something else. Needham discusses symbols which are necessary for the classification of phenomena of the world in order for them to be thought at all. The symbols serve to elaborate and make the classifications more distinct. He also mentions the symbolic representation of cultural norms and values. Such symbols, according to Needham, evoke and sustain emotional commitments to these cultural codes.

Sherry Ortner's work, On Key Symbols, is an attempt to describe the role of symbols with regard to the ways in which they "operate in relation to cultural thought and action."¹⁴ Those symbols which are central to cultural thought and action, those without an understanding of which one could not understand a culture Ortner calls 'key'

¹⁵
 symbols. They are such that they can be found in various aspects of the culture, are known to everyone, and can be seen to express basic attitudes, ideas and/or commitments of the culture.

In order to illustrate the workings of key symbols, Ortner subdivides them into two classes: summarizing and elaborating. These distinctions are not clearly delineated and, in fact, form one continuum.¹⁶ However, in order to make explicit the functioning of key symbols, Ortner works within the ideal of two distinct manners of symbolic functioning, but the distinction remains ideal and forms one phenomenon in action.

Summarizing symbols are those in view of which there occurs, for the people of the culture concerned, a "summing up, expressing, and representing...in an emotionally powerful and relatively undifferentiated way, what the system means to them."¹⁷

Essentially all sacred symbols, objects of reverence, and/or catalysts of emotion such as the cross, the flag, the Mother, the temple, etc., fall under this category. For instance, all of the ideas and feelings a Christian might have with regard to metaphysical commitment and ethical action could be carried within the symbol of the cross. It symbolizes a conglomerate of aspects of Christianity - beliefs, feelings, morals and the like, and does so all at once. Such symbols do not deal with the

logical interrelations of the various elements elicited by the symbol. Rather, it works to "compound and synthesize a complex system of ideas, to 'summarize' them" into one¹⁸ symbolic representation standing for the whole system. As such, it sums up, focuses, and draws together one's internal attitudes and commitments through one emotionally charged representation.

In contrast to this form and function of symbol are the elaborating symbols. They are "vehicles for sorting out complex and undifferentiated feelings and ideas, making them comprehensible to oneself, communicable to others, and¹⁹ translatable into orderly action." Elaborating symbols assist in ordering experiencings and, as such, are essentially analytic in nature.

Elaborating symbols are further subdivided into two functional categories. Certain elaborating symbols carry with them a conceptualizing power from which come "the²⁰ categories for conceptualizing the order of the world." Other elaborating symbols serve as vehicles for giving²¹ systems and "mechanisms for succesful social action."

This form of symbol serves to "conceptualize the interrelationships among phenomena by analogy to the²² interrelations among the parts of the root metaphor." In our own society, such a symbol could be that of the machine. If one looks at a machine, it can be seen as a series of specific parts, with specific functions, all of which

interact according to a chain of cause and effect. It can be easily seen how this symbol can conceptualize, by analogy to something common to all, the ordering of our society. We have a highly specialized society in which all of its parts interact according to certain rules, which result in a chain of cause effect relationships just as a machine, made of highly specialized parts, runs according to cause effect rules. This symbol can give us a logical sense of how our society runs.

The other form of elaborating symbol "implies clear-cut modes of action appropriate to correct and succesful living in the culture."²³ These symbols or 'key scenarios' define and formulate the specific culture's "means-end relationship in actable forms."²⁴ Within Christian culture, the Good Samaritan story would be one such key scenario. It provides a specific model of action for the Christian - a model giving the means towards a specific end, namely, the attitude of the Christian to fellow humans in the name of God - in the name of that which is symbolized by the cross. Another such scenario would be that of the American Dream;²⁵ the Horatio Alger myth. This is the story of a low status, low income individual, with faith in the system, arriving at the culturally defined goal of wealth and power through diligent hard work.

Having made the above distinctions, it must be restated that these distinctions are ideal; they do not pan

out in the actual living symbol. All symbols partake of each function to some degree, be it explicitly or implicitly. Thus, the cross, while focussing a host of ideas and feelings into one symbol, at the same time implies a certain course of action and conceptualization of ideas concerning reality and the individual. The same is true of elaborating symbols. They may give systems of actions and mechanisms for thought but, they imply the summarizing symbol and all it imparts, in that it is this symbol which they work to sort out and organize into an analytically coherent system of social action.

We can see through Ortner's work the centrality and power of symbols. It is the summarizing aspect of key symbols which is of most concern to us at this time. It is this form of symbol which can lead us to the place in our being where we decide and commit ourselves to a specific view of reality.

Our next step in seeing how symbols affect our meanings and commitments lies in psychology and its view of symbols. We will deal, for the most part, with the Jungian perspective of symbols and how they do what they do.

For Jungian psychology, symbol plays an essential role in the development of human or psychic harmony. In order to truly understand the workings of symbols within this domain, we need a brief description of Jung's approach to the psyche.

Jungian analysts claim that there is a psychic energy - a life energy - which they call 'libido'.²⁶ The libido appears, in actual form, in the dynamic phenomena of the psyche "such as instinct, wishing, willing affect, attention, capacity for work, etc, which make up the psychic forces."²⁷ It is libido which empowers our various states of mind - it is libido which powers or which is, in the form of willing specific things, concepts, dynamics, outcomes, etc. It is the energy which empowers our psychic dynamics.

There is yet another aspect of this psychology requiring elucidation before an understanding of symbol can arise. There is a distinction made by Jung between the inner 'psychic' world and the outer material world.

On the one hand, we are in "a continuous process of adaptation to environmental conditions" and on the other hand, we are in a continual process of adaptation to the inner world.²⁸ Only in being adapted to the outer world can one meet the demands of the inner world, and only in adapting to the inner world can one satisfy the demands of environmental conditions.²⁹ It is this harmony of the inner and outer worlds which is the goal of Jungian psychotherapy.

If there is an adaptation to new circumstances in the outer world without corresponding adaptations to the inner world, the necessity of dealing with the inner world increases, and results in 'eruptions' of the inner world into the environmental world of our daily lives. In such

cases we encounter the well known phenomena known as projection or transference. Libido is the energy empowering adaptation to inner and outer necessities. If adaptation does not occur, the libido is blocked, and a symptom arises. The energy cannot move - it becomes 'stuck' in, or 'attached' to a specific symptom until that which requires adaptation has been taken care of. The libido, when blocked, can be moved or redirected only by something of equal energy; a symbol "whose power of attraction represents³⁰ the equivalent quantum of libido." In this light, "an intense attachment to a symptom can be replaced only by an³¹ equally intense attachment to another interest." In order to relieve a psychic symptom, the libido, or psychic energy, must be redirected so that it can manifest in a new form. The process of transforming energy is called the³² 'canalization of libido'. "The psychological mechanism³³ that transforms energy is the symbol" The symbol, so long as it is lived (invested with psychic energy) is intrinsically related to, and carries with it the power of³⁴ that to which it points. Such symbols are not consciously created, rather, they are the "expression of a spontaneous experience which points beyond itself to a meaning not yet³⁵ conveyed by a rational term." In being transformers of psychic energy, symbols "elicit a response and an involvement from depths within us which cannot be evoked by³⁶ reason."

In that the inner world is projected on the outer world in the case of any psychic disorders, the changing or redirecting of libido results in a new and different perception of the world. It is no longer clouded over with aspects of the inner world which need to be dealt with. If, for instance, a man had a strong overpowering and overbearing mother whom he intensely disliked or hated, and the hatred was never resolved or put in its proper place, the symbol of an overpowering devouring mother could well be projected onto the world such that every woman he encountered would be seen in terms of his mother. Women would be encountered as persons to be overpowered or cowered under. In redirecting the libido via the symbol, by living another symbol, the projections would drop and the man would no longer see women in his mother's light but rather more along the lines of lovers, friends or acquaintances in their own right. As such his perceptions of the outer world would change, his world will have changed.

We approach the world in a certain state or frame of mind, with a certain attitude which colours everything we see. Two people can be sitting on a beach at sunset and while one revels in the beauty and splendor of colours and feels full of life, the other could be feeling depressed and see the sun as dying, and in turn see this as indicative of his or her state of being. Both live in the same world, but they perceive and feel the same thing

entirely differently. Jungian psychology is aimed at changing one's world if it is not working, or if it is not as one would like it to be. This is achieved through the use of symbols as releasers and transformers of energy. Symbols thereby become stepping stones to new ways of dealing with, and interacting with, both the inner world of meaning and the outer world of being. With a change in symbol comes a change in experience.

Let us now move on to symbols as they work within culture as a more consensus-oriented process of the same kind we have just discussed. In the preceding view, energy is expressed in and directed through the symbol. My contention is that all of our reality is lived through and expressed by the symbols we appropriate and take as our own. The symbols we accept are indicative of what we believe reality to be. The symbols speak of things we cannot adequately describe or explain with reason and logic - they work beyond this realm. They speak in images, feelings, tones and the like and express more, in one onslaught of feelings, ideas and meanings than can be expressed in a whole book. They evoke levels of response within ourselves which are not accessible in any other way. They are the medium in which our experience occurs. In this vein, Cassirer writes: "the special symbolic forms are not imitations, but organs of reality, since it is solely by their agency that anything real becomes an object for

intellectual apprehension, and as such is made visible to
³⁷
 us."

Mircia Eliade states that "the World 'speaks' in
 symbols, 'reveals' itself through them..." It "is not a
 replica of objective reality. It reveals something deeper
 and more fundamental."³⁸ Symbols reveal a pattern or
 modality of the world not evident to rational cognition.
 This is effected through "apprehension by the active
 consciousness prior to reflection. It is of such
 apprehensions that the world is made."³⁹ He goes on to say
 that "these are the symbols that give pattern to the World,
 shape it...and lend it coherence by interrelating the parts
 and the whole."⁴⁰

The symbol thus crystalizes one's commitment to what
 is considered real, what is considered to be worth doing and
 how one should proceed through life. Cultures are expressed
 in their symbols - we cannot know other cultures until we
 know their symbols (Ortner) - we cannot know ourselves and
 our culture unless we know our symbols. Our culture has
 given meaning to our world and the various systems or
 dynamics we accept as being of the world. The meaning, as
 given over to us in symbols, in turn guides our actions in
 that we do what we believe meaningful both as individuals in
 our personal lives and as a collectivity in our cultural and
 global communities. The meaning we give, the 'real' which
 we accept, is not a given objective fact, but rather, the

result of "an endless series of negotiations among actors about the assignment of meaning to the acts in which they jointly participate...meaning is assigned verbally through speech and nonverbally through ritual and ceremonial action and is often stored in symbols."⁴¹ If symbols store meaning and give pattern to the world when lived, changing the symbol thus changes the direction of one's energy resulting in a change in the meaning and pattern of the world.

In that symbols "reveal an inner pattern of the world,"⁴² and since they communicate by touching and exhilarating "centres of life beyond the reach of vocabularies of reason and coercion,"⁴³ it is through symbol that we can arrive at the place in ourselves where we believe what is true or not, real or not, possible or not. By changing the lived symbol one changes the way the world is seen, encountered, and expressed; one changes the way the world is lived. We can change our internal model of reality by changing its symbols, or by changing the relationship between the symbols making up the model.

There is yet another area which must be looked at before we can truly see what symbols do and how they do it. We need to look at symbols within a larger context - within the context in which they are found. Symbols do not simply float around - they have a place - a domain within which they work. Our next step is to look at myths and models; the stories and structures we create to explain the world in

which we live. It is my view that symbols maintain the reality they express through myths and models. They are what pull symbols together, and hold them there, in order to create a static world image - a model of the world. They are the mortar holding together the symbolic blocks making up the foundation we stand on in our trek through life.

In the words of Ernst Cassirer: "The mythical form of conception is not something superceeded to certain definite elements of empirical existence; instead, the primary 'experience' itself is steeped in the imagery of myth and saturated with its atmosphere."⁴⁴

Myth, in the traditional sense of a story-like account of Gods and people, is not quite what I have in mind here. 'Model' might be a more appropriate term for the phenomena herein described since we, for the most part, do not constitute and or concretize our reality with stories. Rather, we use scientific models, economic models, political models, socio-cultural models, and any other models which might fit onto our realities. Models, unlike myths, do not describe our world, our culture, and our goals in the form of stories or with the intervention of gods, but they serve the same purpose and are essentially the same in terms of their function of creating a specific world view.

In order to see how myths and models can be taken as synonymous for my purposes, I will quote Joseph Campbell's four functions of myth. With this I can show how models

fulfill the same operations as myths.

According to Campbell,

"the first function of a living mythology ... is to awaken and maintain in the individual an experience of awe, humility, and respect in recognition of that ultimate mystery, transcending names and forms." "The second function of a mythology is to render a cosmology, an image of the universe..." The third function is "the validation and maintenance of an established order" This function deals with "the enforcement of a moral order: the shaping of the individual to the requirements of his geographically and historically conditioned social group..." The fourth mythological function is the "centering and harmonizing of the individual"...with a) himself (the microcosm), b) his culture (the mesocosm), c) the universe (the macrocosm), and d) that awesome ultimate mystery which is both beyond and within himself and all things."⁴⁵

Where myths once expressed, modelled, and maintained world views in all of their aspects and properties within many faceted stories, we now have science, religion, politics, and our educational system to serve these operations. In the words of Joseph Campbell, "the intent of the old mythologies to integrate the individual in his group, to imprint on his mind the ideals of that group, to fashion him according to one or another of its orthodox stereotypes ... has become assumed in the modern world by an increasingly efficacious array of ostensibly permissive, but actually coercive demythologized secular institutions."⁴⁶

It is now the domain of science to present a coherent view of the world and the universe in conjunction and harmony with our view of ourselves. It is the work of religion to present, awaken, and maintain a sense of awe in the face of the 'mysterium tremendum'. It is the role of our

educational system to imprint on the minds of the young the established order of our society; its aims, and the accepted methods for achieving them, our moral codes, and the harmonious relating of the individual to his culture, his world, and his fellow members. It is quite evident, in my view, that even though myths may no longer be with us in most cases, their work continues in the form of scientific, religious, social, political, and educational models. And it is precisely these models, "... the imprints, stereotypes, and archetypes of the social sphere ..." which "... determine our personal sentiments, deeds, thoughts, and even capacities for experience."⁴⁷

I am once again in agreement with Campbell in saying "... a myth itself, as well as the symbols it brings to play, never quite disappears from the present world of the psyche; it only changes its aspect and disguises its operations."⁴⁸ We have disguised our myths by demythologizing our models, which is to say, we have thrown the gods out of the picture and have replaced them with theorems, structures, and laws of nature,

We will now turn to some views of myth and the working of symbols within the mythic image, keeping in mind that the terms 'myth' and 'model' are interchangeable.

We have already dealt with the working of symbols as the building blocks for reality. We have seen them to be essential in understanding world views, as well as being the

constituting elements of world views by virtue of their connectedness to fundamental levels of our being. They are the concrete form our beliefs and notions take on in our world. It is through myth that the symbols are put together in relation to one another and held there.

The question I am concerned with is 'how do myths, through the integrating of symbols, maintain our world views'? On the one hand it is done by way of imprinting the myths onto the minds of the young through their repetition either explicitly in our educational system, or unconsciously via the living exemplar in everyday existence. In all of our beliefs, in all of our acts, desires, goals, and methods of dealing with the world are expressed our mythology. We cannot help but express our myth since it is the perception of the world by which we live. Through their use of symbols which mediate the world 'out there' with the one 'in here', myths organize and interrelate the images, perceptions and interpretations of our symbols into a coherent picture - a picture of the world which, as far as most are concerned, is the world. "The myth is what we never see in ourselves, the secret spring of our vision of the world, of our devotion, of our dearest notions."⁴⁹

Myths organize the symbols which have meaning for us - the symbols with which we interpret reality - and focus them into specific directions which are in keeping with the goals and attitudes of our community. Campbell states that "a

mythological canon is an organization of symbols, ineffable in import, by which the energies of aspiration are evoked and gathered towards a focus.⁵⁰ Myths interrelate symbols in such a way as to make a coherent picture - a picture we can understand and live by. If we look back to the Jungian conception of symbols, it will be remembered that they are 'releasers and transformers of energy'. In this light, myths "carry the energies of the psyche into the mythological context ... where the energies function ... as releasers and directors of the energies into the field of adult experience and performance."⁵¹ By the very fact that myths unite the symbols we use to delineate the boundaries of experience, "mythologies ... whether of the primitive or of the higher cultures, antecede and control experience."⁵² Myths thereby regulate and direct experience, and in so doing, create and maintain our socially/communally constructed realities.

All of this may sound well and good for primitive cultures, and yet seem rather nonsensical in discussing our own modern, rational empirical approach to reality. Think back for a moment to our discussion of scientific paradigms and shifts, to the lack of an absolute grounding network, and to Feyerabend's recommendation for accepting nonsense (provisionally, that is) in the hopes of learning more of ourselves and our world.

Mark Schorer states that "rational belief is

secondary ... Belief organizes experience not because it is rational, but because all belief depends on a controlling imagery, and rational belief is the intellectual formalization of that imagery."⁵³ Our world views, as expressed by myths, are the controlling images of reality which are based on our beliefs - beliefs that the world really is this or that way.

Symbols originate from within. They are meaningful only when they are lived, when they are believed to be true. At the same time, rather paradoxically, they originate from without - from our culture. We appropriate them and they become a part of ourselves. Symbols originate from within at some point, and at the same time are presented to us by our world experience. Myths are also to be found within - they are formed inside and projected onto the world and, subsequently, taken to be the world. Myths, like symbols, are rather paradoxical in that they too are formed within, but they are also given over to us by our culture. They are often mistakenly taken as being the terrain rather than the map of the terrain; the route most accessible to our assumptions, notions, categories and beliefs. "Life then produces myth, and finally imitates it."⁵⁴

Along with being maps of the world 'out there', myths also furnish "a pattern for dealing with the mysterious universe within ... The imprints of mythology then function as guiding symbols, signposts of the inner

landscape, cue cards for the mythic drama one may
 unexpectedly find oneself enacting."⁵⁵ "The symbolic
 vocabulary of the psyche is mythic, but determined by an
 outer socially grounded system of conventions. Relationship
 to both inner and outer dimensions is mediated by this fixed
 vocabulary of mythic symbols."⁵⁶ We thus find in myth a two
 way mirror. It reflects our cognitive construction of an
 external reality while, at the same time, reflecting the
 inner wellspring of our being from which arise our beliefs
 and attitudes - our symbols. As I have already quoted
 Dardel as saying, "the myth is what we never see in
 ourselves, the secret spring of our vision of the world, of
 our devotion, of our dearest notions."

Our visions of the world are expressed and
 concretized in the symbols we use in describing our world be
 they mythic or scientific. These views of reality are held
 together by myths which, in turn, are maintained and
 propagated through various institutions as well as through
 the living examples of the members of our community.

Ian Barbour claims that myths "provide communities
 with ways of structuring experience in the present. They
 inform man about his self-identity and the framework of
 significance in which he participates."⁵⁷ Of the scientific
 model, he says it is "an imaginative tool for ordering
 experience."⁵⁸ Barbour states that theoretical models in
 science are "mental constructs designed to account for

observed phenomena ... they are symbolic representations of the world ... Ultimate models direct attention to particular patterns in events and restructure the ways one sees the world."⁵⁹ Just as scientific laws work as the glue by which our paradigms hang together and make sense, mythic stories make sense of our symbols. They are the mortar holding our symbolic blocks in place to make our foundation.

Myths, by organizing symbols into patterns which focus on and concretize specific aspects of reality, create a view of the world. They embody the reality we believe to exist. In so far as "cultural presuppositions condition all interpretive categories"⁶⁰ it is easy to see how we can have various different world views and, thus, have many realities in existence in this one world which we all inhabit communally in our various cultural milieus.

As I have already explained, there is no such thing as uninterpreted experience. All experience, even the mystical experience, ends up as interpreted in the light of the models of the community to which the experiencer belongs. Barbour states that "the basic assumptions of a paradigm community influence its choice of models."⁶¹ Basic assumptions are the most fundamental positions we take with respect to the nature of reality. These assumptions would include notions such as how we understand the world; is it a living entity, a mosaic of dead inanimate particles in chemical reaction, something to be revered and honoured or

something to be used for one's ends whatever they may be. These assumptions influence our myths in that they must coincide with the premises.

"Myth is the everchanging mask that the mind of the beholder fits over a reality he has never truly seen."⁶² Myth is the mediator, the link between the reality 'out there' and the one 'in here'. Stephen Larsen says that "there are in man deep structures of which he is little aware, yet, which pattern and shape his entire experiencing."⁶³ It is precisely these structures which are concretized by symbols and actualized in the world by the very act of seeing the world through the lens of the myth employing these symbols. Thus "science, like any belief system, functions as myth,"⁶⁴

It is through these concretized myths that we maintain our particular view of reality. They serve to conceptualize and bring into focus the patterns we want in the world so as to conform with what we want of the world. It is in this way that we create our realities in our own image.

In this light, Campbell says that the human mind, "in its continuing dialogue with the world, is the ultimate mythogenic zone - the creators and destroyers, the slave and yet the master, of all the gods."⁶⁵ Continuing in this vein, I venture to say that we are also the creators and destroyers of our science and our world as seen through the

scientific model. We are both slave and master to our theories be they scientific, religious, political, economic... We seem to have forgotten that we are the makers of our reality; we have become slaves to our views. In the following chapter, I hope to show how we can once again gain some mastery over our reality by way of changing some of the orders and structures of our world.

RITUAL: REORGANIZING REALITY

All of the preceding chapters in this work have been a staging within which this final chapter can take place. The first two chapters are intended to show that there is no one ultimate objective reality standing over and above all descriptions of reality. There is no grand, absolute epistemic base to which descriptions of reality must adhere. The only grounding for any descriptions of reality is to be found within the particular description itself.

The chapter dealing with symbols and myths is meant to show one of the ways in which we make concrete our ideas, notions, commitments and beliefs about the nature of our world. Symbols are the vehicles we use to sort out and maintain our deepest notions of reality. They are the signifiers we use to denote the structures and paradigms with which we approach, and into which we place reality. Myths and models - paradigms - in turn, are the formats or structures within which we apply our symbols. They are the glue which hold together our symbolic blocks, thus creating a picture of the world as we live it. Myths and models are the ground we stand on when stating anything about the world we co-inhabit. The aim of this final chapter is to show how

we can change the script of our world play. The method I will be describing is a truly ancient one. It has been employed as a route to change for thousands of years. This fact alone makes it a formidable ally in this discussion of changing realities. The ritual method of change is simple once the whole picture is clear. What we have in this picture are cultural actors abiding by the accepted cultural script. If, according to the script, someone becomes ill, or it is time to move on to a new station in life - a new way of being-in-the-world - it is necessary that one's personal role (within the larger culture play) be changed. The role one plays must be changed if one is to play a new part. If there is no new role, one remains the same. In order to achieve this, a director must be brought into the picture. The director is one who knows the script, and who can also change the script without destroying the play. In traditional rituals, the director is known as the priest/shaman/healer. In the present context of ritual as I am describing it, the director need not be classified as such, provided that he/she can see the script and knows how to change it. It is possible that one who can effect ritual change will be thought of as a healer of sorts, but this is of no concern at this time.

When I think of ritual, I see it in a much broader context than that of religion. Ritual, in the religious sense, is often aimed at strengthening one's beliefs and

commitments as is the case with the weekly mass in Christianity. This form of ritual brings people together to communally maintain their religious beliefs. There are, however, other forms of ritual within Christianity aimed at change. One such ritual is the marriage ceremony. This ritual I would classify as a 'rite of passage', to use Arnold Van Gannep's terminology. Two people who have led individual lives are brought together, and bound to each other through the performance of this ritual. They are brought into a union such that they must, for the rest of their lives, change their ways of seeing themselves and their possibilities. They are no longer single members of society. When looking at their various possibilities in life, and even when looking at simple things like what to do today, the new 'couple' must take each other into account. Their way of seeing themselves, their roles, and life in general have to change. They must see themselves and each other in a new way - they have new identities of sorts. They have not lost their old identity per se - what they must give up is an image of themselves as single entities while at the same time, replacing it with a new image of themselves as a couple. Not only must their personal script change to some extent, but the way in which society encounters them is markedly different from the way it encounters single people. This ceremony has repercussions which extend throughout society in that the newly married

couple plays a different part in the cultural play. In playing a new part, the responses and reactions to the couple will be different from the responses and reactions to those same people as single members of our culture. At the same time, they will think and act differently than they had when they were single.

This is a fairly common, simplistic example of a ritual, but one which many people have access to. It is a clear illustration of a change in personal and social status resulting in a change in world situation and experience due to the performance of a ritual rite of passage. We will return to rites of passage shortly, but first I will provide some more general characterizations of ritual so as to make perfectly clear what I am talking about.

One of the ways in which I see ritual is as a system or pattern of acts and gestures through which people hope to achieve some end. It need not be religious in its orientation. Parliamentary proceedings, law courts, beauracratic processes are fraught with ritual type movements. There are set procedures which must be followed for one's acts or desires to be recognized, legitimized, accepted and/or carried through the proper channels, thereby attaining one's goal. Think for a moment about a law suit. If someone wishes to sue, one must go through a rigid network of prescribed actions including the hiring of a lawyer, going to court, going through all the

steps of such a judicial procedure after which time a sanctified judge makes a decision based on evidence presented. The aim behind this is that by going through the proper moves, one convinces the judge(s) that one's perception, experience, and understanding of reality in a particular situation is the right one, and according to this view of the situation, one should be treated in a certain way (receive some form of compensation). We have here someone who has been given the part of playing arbiter; where the reality of certain situations has been brought into question. The way to decide which depiction of a situation constitutes the reality of that situation is to go through the secular ritual of the judicial system after which time one or the other description will be taken to be the legally legitimate perception of reality in the particular instance.

To get closer to a definition of ritual, I think I could make the general claim that ritual is a series of gestures which symbolize something of import to its actors. A ritual which has meaning and creates some effect on its actors is one in which, as Leonel Mitchel states, "there is commitment to the inner reality symbolized by external gesture."¹ This is a most important point since it is the inner reality that we experience of the world, and it is the inner reality which is expressed through symbol and symbolic gesture. This also means that ritual can be ineffective:

simply a series of empty motions with no 'real' import. If we use symbols and gestures to express our internal experiences and ideas of reality, ritual, in using these vehicles, can be a powerful tool in communicating with that part of ourselves which organizes experience into our model of the world, provided, of course, we use live symbols. If the symbols being used are dead, there can be no connection or communication, and ritual becomes empty form.

In his book Rites of Passage, Van Gannep has tried to show "the ceremonial patterns which accompany a passage from one situation to another, or from one cosmic or social world to another."² One of the classic elements of such a rite is the symbol of the threshold or doorway - an entrance into a new sphere while at the same time an exit from the old. "The rite of passing between...or under something, is one which must, in a certain number of cases, be interpreted as a direct rite of passage by means of which a person leaves one world behind him and enters a new one...to cross the threshold is to unite oneself with a new world."³ In discussing one of the most heard of rituals, the initiation rite, Van Gannep says "the door is the boundary between two stages of life so that in passing under it a person leaves the world of childhood and enters that of adolescence."⁴ The initiation ceremony is one of the most clearly evident cases of an individual entering a new world. Upon performance of the rite, a boy becomes a man; a girl a

woman. From that point on the individual sees and thinks of himself differently; he has a new position to play in life. The rest of the community also sees the initiate differently; the child has become an adult, or at the least, is in an intermediary stage between child and adult. "Initiation is equivalent to a basic change in existential condition; the novice emerges from the ordeal endowed with a totally different being from that which he possessed before his initiation; he has become another."⁵ The same is true of the marriage ceremony in virtually every culture, including our own. The change may not appear as radical or intense as the change arising from initiation rites, but the change is of the same form. The result of such a change is a new pattern of behavior - a new way of being-in-the-world. It is precisely the change in behavior that ritual is directed towards.

According to Anthony Wallace, "ritual is directed toward the problem of transformations of state in human beings or nature."⁶ The transformation of one's state of being requires a change in the way the world is lived - it necessitates a re-organizing of the beliefs and attitudes expressed through symbol and myth - the beliefs upon which reason is based. Clyde Kluckhohn says "those realms of behavior and experience which man finds beyond rational and technological control he feels are capable of manipulation through symbols."⁷ It is through the manipulation of

symbols and symbolic gestures that rituals achieve their aim of changing behavior, identity, reality. In the words of Victor Turner, "simply stated, we master...ourselves by symbols."⁸ "The accomplishment of the ritual re-organization of experience thus is a kind of learning process...which readjusts values and perceptions and re-focuses attention."⁹ Just as symbols and models focus our attention and maintain specific aspects of reality and thereby create the real world we believe to exist, so does ritual re-focus our perceptions in order to see a new world. It uses the symbols by which one lives and, through their manipulation, causes one to see the world from a new vantage - with a new set of boundaries and forms thus constituting a new perception and new experience of the world. With new perceptions and new experience come, of necessity, new patterns of behavior. Our behavior is reflective of what we encounter; when we encounter something different, or, when we encounter something in a different way, our behavior is different.

In many cases, rites of passage are the result of some sort of crisis be it personal or social.¹⁰ "Anomie and identity crises are eliminated and in their places are fixed roles and rites of passage transporting persons not only from one status to another, but from one identity to another."¹¹ For some reason, in some way, the performance of the rite "both symbolizes and actualizes the change in

status."¹²

The Hopi Kachina Cult initiation is a rite of passage into adulthood which clearly demonstrates a new view of reality arising from ritual. The children of this group are set up from the time of birth for this initiation. Kachinas are adults of the community who dress up as superhuman beings and come to the village every year "to overlook and direct human and cosmic affairs." The children are brought up to "identify the kachinas with their physical appearance and actions."¹³ At the end of the rite the Kachinas take off their costumes and the children see them for the first time as what they are - masked impersonators - often relatives. "The result...is that the reality of the Kachinas, one's destiny, and the whole basis for reality are called into serious question."¹⁴ "The very nature of reality has become threatened. The children must search out a new basis for percieving a meaningful reality."¹⁵ After being brought up to believe the Kachinas to be real gods, the reality of these children is shattered through the unmasking of the gods. Once the illusion is shattered, a new view must be made - one which incorporates the old view but in a new way. "The children are confronted with the choice of accepting the position that the Kachinas and all that they do are not real, or of percieving and experiencing the reality of the Kachinas, and hence the world, in a different way - as spiritual as well as material."¹⁶

The point I wish to make with these examples is that the world can be changed through ritual. The original view of the world is broken down and a new view or model is erected. In the above example, the children are set up from birth for the act of breaking down their original view of reality. Even without this setting up, one's view of the world can be torn down and remade. It is my view that reality can be ritually re-made through the process of de-structuring and then re-structuring one's perception of reality. It is because "the basic building blocks, the 'molecules' of ritual...are symbols"¹⁷ that reality can be re-organized or re-structured through ritual work. Ritual "opens up enough time in the right place for the exchange to be made: it is liminal; a fluid mid-point between two fixed structures."¹⁸ This is the crux of the matter. Ritual takes one to a fluid place betwixt and between the rigid structures, myths, or models of reality. It opens one up to that fluid ethereal space where we make our beliefs about what is real and what is not. How, though, does ritual manage to move into this realm - how can ritual achieve and manifest a re-structuring of reality?

If we look back to what was said earlier of symbols and myths the answer can be found. Symbols are the markers, the blocks we use in marking out and building our realities. They are what we bring back with us after diving into the fluid place betwixt and between formal models of reality.

They are the formal manifestation and expression of our perceptions and experiences of the world. All of the symbols we use to concretize our perceptions are held together like a puzzle by the myths or models which we have appropriated from our culture. Myths are like a glue which hold the symbolic pieces together in such a way that they 'make sense'. We create sense by the way we fit the pieces together and the 'sense' we create is itself a part of the model we put together. We end up with a self-containing, sense-sustaining model of the world, the universe, and ourselves.

Rituals, in using the living symbols of our reality, evoke responses from those levels where the symbols reside. By bringing various symbolic constellations or crystalizations into focus, a response from one's depths is achieved and thus, a connection is made between the ritual director and ritual actor.

I use the term 'actor' here because, in large part, that is what we are, actors playing a role in our society - in our cultural play. We abide in a consensus reality - a script wherein our culture decides what and how the world is, what the objectives of our society are, and what the acceptable goals of the individuals within our culture group can be (which are, of course, in keeping with the wider context of cultural goals.) "The person may be thought of as the cultural definition of the actor in a social

situation..." The person is "constructed out of symbols and definitions from various cultural domains...in relation to particular contexts and systems."¹⁹

It is through symbolic role playing that we find our identities within our culture. We define our identities through our cultural and personal roles. We see and experience ourselves as succesful or not, rich, poor, (monitarily or otherwise as defined by our 'circle of friends'), as teachers, lawyers, ministers, white collar workers, factory workers, laymen, elite, unemployed, psychotic, neurotic, insane, sane, lovers, friends, enemies, acquaintances, etc. All of these terms for our states - our ways of being in the world - are culturally defined. It is true that certain conceptions of these states differ within our culture, but even these differing perceptions of such states are defined in terms of a smaller group within the larger cultural context. This is how we end up with our own little circles. If there are enough in such a circle it can become a sub-culture. The most dramatic examples of such mini-cultures are cult movements such as the Moonies and evangelical revivalists like Jerry Falwell. On the other end of the scale - if there is no circle - if one's way of experiencing and describing reality is shared by no one, a person is considered insane and taken out of society altogether.

The clue to defining our identity within the social

sphere lies in our behavior - the way we act our part. Thus the president of a university acts the part - he sees himself as a president, acts as one, and expects to be treated as one by others. A sure sign that we are playing a part properly - legitimately - is that we are treated as if we are that part. One who works in a factory on an assembly line is seen, and thereby treated differently (by most people) from the owner or president of that same factory. One in a psychiatric hospital is treated differently from both the worker and the owner. There are differences in the ways these people act, and there are differences in the ways they are re-acted to.

This is a fairly simple point, but it gets across the message that we act differently and are treated differently depending on the role we play. I once had long hair, a beard, and wore head bands, old patched up jeans and drove a VW microbus. I was playing the part of the 'hippie'. I did not really pay too much attention to the responses I was getting from people, until I shaved off my beard and cut my hair. Immediately, the same day, as I walked around and went into stores I noticed a profound difference in the ways people treated me. People would smile and acknowledge me on the street, clerks in stores were much more helpful and talkative - there was something totally different in the way people re-acted to my new image. My whole experience of people changed when I changed

my image, and the way others experienced me was, I am sure, different.

The above is also true of more fundamental notions about reality itself - its constitution. The behavior of a Jain monk who sweeps his path so as not to harm any creature because it could be a reincarnated relative is markedly different from the behavior of a sportsman who hunts animals for fun. Their behavior expresses their world view, and it is their behavior - the image of themselves which they express in all their acts - which we respond to.

It is my understanding that certain rituals serve to change our behavior by changing the organization of our symbols of reality. At the same time, such rituals help to change other people's ways of behaving towards us. This, as I see it, is done in one of two ways. First, by changing our behavior - our script - the ways in which others deal with us must change. If we do not accept an old pattern of acting and inter-acting any longer, it will no longer lend itself to communication in that form. In order to communicate with one who has changed his state, status, or identity, another must change his/her old way of behaving towards that person to a new way; one in harmony with the persons new way of being. If we behave differently, we become different, and people will naturally have to treat us differently. It cannot be helped if communication and inter-action is desired.

The other way in which ritual' can change others' behavior is through the act of being aware of a ritual change. If it is a part of a society to undergo a ritual rite of passage into a new state of being (marriage, initiation, death, whatever,) the performance of the ritual will change the way others see the one, and henceforth, the one will be treated differently. Along with being treated differently, one will act differently with the final outcome being a new role in life - a new identity in a new world - a world of new responses. A new perception of oneself and of others, a new reality will have been created.

It is by finding their innovative capacities that we can use rituals for changing our experience of the world. Just how to do this is not something which can be taught on paper. It is something requiring experiential work. One has to learn the symbols which have import for the individual intending to undergo ritual transformation. One must first find out what exactly needs to be restructured and find the symbols which express and concretize the original structure. One must then find what the new structure of reality needs to be for the person involved to be satisfied with himself and his world. Once this is done one has then to see how to build the new structure out of the old - see what symbolic blocks can be kept as they are, which ones must be transformed, and which ones must be discarded altogether (if any). The next part of the process

is to find a way to bring the person into communication at the fluid level between structures or models. This is done through various techniques including symbolic gesture, music, drumming, singing, chanting, the creation of 'sacred space', etc. The methods for achieving this communication is different for different people. This is where personal creativity is involved - one has to feel one's way around in this area and find what has the desired effect. Once the connection has been made, the transforming can be effected.

An odd thing happens throughout this process. The people involved know that they are acting out parts, but in the acting that which is symbolized is actualized. One loses oneself in the act, and in so doing, the act is made real. In his article Parashaminism, Ronald Grimes discusses what he sees as the modern day sort-of-shaman. In it he makes a claim which I consider quite true of ritual: "I know what I am doing is pretend, nevertheless, it effects²⁰ changes and constellates power, so it is real." He goes on to say "parashamans are liminoid make-believers who are²¹ specialists in directing restorations of behavior." 'Make believers' is precisely the right phrase. In ritual work, one makes belief - makes a new network of beliefs about certain things out of the old network of beliefs. In this way, a new model of reality can be created out of the old one.

There is not much more I can say on paper about how

ritual works. All that I have left is to give an example of someone who uses ritual today to achieve new behaviors, new attitudes, new paradigms - new worlds.

Connie Gallotti works out of Waterloo doing weekend, day-long, and evening seminars on masks, mask making, and routes towards personal change through the masking metaphor within the ritual milieu. She has been doing ritual work for the past five years, however, it is only in the last year that she has begun to make her work public. Although she has been working with the mask as a metaphor for personal change throughout the past five years, it is only within the last twelve months or so that she has found a way to package it in a coherent whole accessible to those interested in personal change. Her methodology is to work with personal changes which translate into different ways of perceiving, experiencing and constituting the world. Her symbol for accessing levels of personal change is the mask. It is one of the most common, widespread metaphors for oneself. It fits into the notion of the actor - both social and personal roles which we take on throughout our lives. The mask can be used to embody the old way of being-in-the-world and then it can be symbolically let go. One can burn it, throw it away, take it apart, whatever one needs to do to let go of the old way of being; the old patterns of behavior. On the other hand, the mask can be used as a symbolic embodiment of a new way of being and the

old patterns could be let go of in other ways.

The question which continually creeps into my mind is 'how does this work?' I am still not sure, but I can describe some of the process involved. Gallotti will spend time talking about masks as ways of covering over parts of oneself as well as ways of bringing forth parts of oneself. She will talk about actors, acting, roles, role-playing, and bring this into everyday experiences of acting in the social and personal spheres of our existence. After bringing people to the place where they think of these hidden structures behind our behavior, she will get them to find what they want to change, and from there on she works intuitively. She does what seems right at the time to effect the desired changes - and the changes happen even though at first, the whole thing has the feel of being sort-of-like pretend. I have an exquisite example of some ritual change work Gallotti did a few months ago. In this instance, she did not use the mask metaphor to any great extent - it was not necessary - but the other symbols and the process involved are so clear and self-evident after all that I have said, that I think the process I am trying to bring forth will make itself clear and speak for itself.

The woman with whom this ritual work was done we will call Collette. She is thirty years old, comes from a Mennonite background, and was both married to, and fathered by a minister. As such she was brought up with a very rigid

and narrow outlook on life, the way it should be lived, and the ways in which one should act.

Her reason for seeking help from Connie is that she felt constrained by her family and her religious background. She was looking for a way to free herself from the bindings of her strict upbringing in the Mennonite world. What follows is a brief description of the two sessions through which she freed herself from these bindings.

The evening before the first session, Collette was instructed to take a long bath after which she was to use a special oil to massage her feet, legs, hands, face, and neck. The reason for doing this was "to begin an inward journey towards loving herself. The practical aspect of bathing was simply aimed at having her touch herself with love."²² Collette needed this exercise because of the fact that she saw herself from within the viewpoint of her sub-culture. In order to feel good about stepping out of the Mennonite world, she had to find a way to feel good about herself without seeing herself in her old framework. In the eyes of her family, her move away from their ideas and ideals is a step in the wrong direction. As Connie says, bathing is simply a practical application of making herself feel good.

In the first session, Connie and Collette began by building a medicine wheel. "With stones of the earth she made a commitment to her work." A medicine wheel is an old

native indian tradition where stones are placed in each of the four directions indicating and illiciting the symbolic energies of those regions. Other stones placed throughout the wheel are symbolic of various entities or aspects of the world which are of importance to the one building the wheel. Collette placed a stone in the north, the place of crystal clarity with the intent that she would see more clearly. To the east, "the place of the eagle; flying high; majestic; she claimed the right to fly instead of walk. To the south, "the place of the child, innocence, she claimed the right to be free of the pollution of the adult world." She placed a stone to the west, "the place of the bear, the looks within place. She made a commitment that she would stand by her understanding of looking within as a way of being in the world. Finally, a candle was placed in the center as a symbol of her spirit. "The candle would cradle her commitments to herself."

The aim behind the above ritual is to bring into a more focussed awareness the inner nature which Collette wanted to bring out as it is reflected by the symbolism of the four directions. For different people, these 'releasers and transformers of energies' illicit different responses and ideas. This process is intended towards helping Collette to be clear about what she wants to change into - the view of herself she would like to make actual.

Connie, her two assistants, and Collette then moved

into "another method of bringing Collette's awareness to her hidden nature; the nature she was seeking to free from the bindings she felt from the world around her." They began to create a beat, a rhythm, with drums and rattles. "Reason: to bring an energy level into the room which would best help to release Collette's constrained energies." They all began to dance, and after several minutes,

Collette is trapped in the center of the beat. This acts as a reminder of her familiar feeling of being trapped. I (Connie) keep her moving for a while longer causing her to be out of breath. If her body is concerned with regulating her breath, it will be less concerned with keeping up the rigid barriers which prevent Collette from moving and living freely. This is a spiral walk into the problem. It works with individuals who are afraid of deeply living an experience; who are afraid of losing control. This is a ritual walk marking necessary issues. Next Collette was given paper and pen and asked to write stream of consciousness style. The energy in the room was high, and we all focussed our energies towards Collette...She wrote several pages...Within three or four minutes she was getting unsettled and emotional...I began to push her to write faster. This seemed to trigger more anxiety, so I pushed even harder. This gave me a clearer picture of what she was struggling with; a family who didn't approve of the changes she wanted to make in her life, and an ex-husband who felt the same. She wrote frantically and then began to cry quietly. I asked her to lay down on the carpet. We focussed on ritually (symbolically) moving up her body with the trapped energy - the inner image of herself she wanted to bring out and live. I applied pressure to her head with my hands. It was as though she needed to have her head contained. When I did this, she began to cry profusely. Her head was trapped in a tight box. Her relief level was astounding. She lay quietly for several minutes while we massaged her legs and arms. When she was ready to talk, she said she felt a quietness and peacefulness around her; a gentle feeling which surfaced from within. She was beginning to love herself.

It was in the second session that Collette broke through the barriers which maintained the image of herself

and her world which she no longer wanted.

We began the session by making Mandalas. Not thinking, we coloured to the sound of gentle instrumental music. Reason: to release the inner images Collette wanted to bring out. We danced again, and this time she danced her pain for about fifteen minutes. I then asked her to write again. This time her writing was full of anger and resentment towards other peoples impositions on her; impositions of the way she should be which were not in harmony with the way she wanted to be. She wrote things like "I don't want to be in this box, I want out of this mask that I wear." Once she began to release enough anger, I asked her to lie down again. I quickly wrapped her up inside a sheet before she had time to resist. Once she was wrapped up like a cucoon, my assistants held her lightly in the sheet and I placed a mask on her face. I said in a soft voice, 'when you are ready to climb out of your own imprisonment, come out. It's your choice.' She began to cry; she realized it was up to her. It took only a few seconds before she began to make her move. The more she moved to get out, the tighter we held her in. If she experienced her family and ex-husband as holding her in a box, the best thing we could do was simulate the same action so that her experience of us was like her experience of her family. When we did this she began to fight, scratch, bite and anything else that would get her out of her box, and into the place she wanted to be. She finally worked her way out of the sheet.

She aquired the ability to move through a threshold - a door - on her own power. She received the opportunity to change the patterns in her reactions to oppression. Once the body has recieved a message of behavior, it can then act with this message. It is like giving new instructions to one's body memory. By getting out of the constraints placed on her with the sheet and the mask, Collette gave herself a new way of reacting to constraints; she gave herself a new memory. The new memory is one of breaking out into herself - into her own image regardless of the image others may have of her

This has had a profound effect on Collette's life. She now lives in a new world in which the old constraints have been replaced with new constraints chosen by her. She feels free to do what she wants; not what other people want her to do. Her world is now full of possibilities and

opportunities which were never there before. She has even gone so far as to become engaged to a new man and begin a new life with him. Collette has gained some mastery over her world and herself - she is no longer slave to the images of herself with which she was brought up. She has found a new strength; a new way of being in the world; a new world.

CONCLUSION

Having seen how ritual can effect changes in one's lived world, it remains to be seen what parallels lie between ritual change and scientific revolutions.

In rituals, symbols are changed or re-organized in such a way that new patterns are seen in the world. New limitations of , and new possibilities for experience are opened up. Different ways of seeing and interpreting the world, along with a change in external behavior arise from this process. For Collette, undergoing ritual change has resulted in a new way of experiencing herself and her world. By changing and restructuring the deeply imbedded symbols given her by her Menonite culture, she has changed the rules by which she lives. Collette now behaves in a different way in a world she did not have access to when being a Menonite.

Atoms, sub-atomic particles, probability wave functions, etc., are all symbolic connotations pointing to and describing aspects of the world according to the presently accepted scientific framework. The beliefs that we have about what these symbols point to are carried within the symbols. Complementarity, Field Theory, the Uncertainty Principle, and the like are mini models expressing how some scientists see these symbols coming together to make a coherent picture. All of this falls within the scientific

realm and thereby gives a scientific view of the world.

Working within this viewpoint, scientists behave in a certain way. They treat and experience scientific particles according to the accepted theories in much the same way that people treat and experience the world according to their accepted framework.

When scientific shifts occur, some of the symbols through which the world is interpreted and understood are changed or the definition of that which the symbol points to is changed to suit the new view. The Newtonian symbol of the world as a machine with specific parts relating in exact ways has been changed to one of myriad particles colliding and creating new ones with only probabilities governing their relations. The symbol of the atom, while retaining the same name, has very different connotations. No longer is it a dead, inanimate, irreducible mass, but rather, a reducible instance of vibrating particles.

In this revised view of the world, the scientist works in a new and different world. His behavior changes in accordance with the symbolic understanding of the world. The scientist's method of experimentation, interpretation and description changes. New possibilities for, and limitations of experience are opened up in the scientific realm.

We find, then, that changes of symbols, changes within symbols, or changes in the interactions between

symbols, along with changes in behavior due to revised perceptions and interpretations of certain aspects of the world are the outcome of scientific shifts and ritual change.

Showing that the possibility of changing one's world exists, be it in the domain of science or of everyday life, is the aim of this work. I believe it has been made clear that new possibilities for experience and interpretation of the world exist, and as such, the world, as we live it, can be remade.

FOOTNOTES

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3. Wolf, Fred. Taking the Quantum Leap. pp 25-26
4. Op.Cit. p 118
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9. Gregory, Richard. Mind In Science. p 135
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13. The Tao of Physics. p 67
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18. Ibid. p 85
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20. Op.Cit. pp 109-111
21. The Tao of Physics. p 210
22. Op.Cit. p 165
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