DUALITY AND PERCEPTION

A thesis presented to the faculty of the Graduate School of Western Carolina University in partial fulfillment of the requirements for the degree of Master of Fine Arts in Fine Art.

By

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DUALITY AND PERCEPTION

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Western Carolina University (May 2008)

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The self and how it relates to the universe is an idea that is present in both eastern and western philosophies. Through arrangements of photographic media, contemplations of duality and perception are explored through the use of archetypal imagery, particularly the mandalic form, and the application of shape, space, and pattern. How these forms produce a sensation of meaning on an unconscious and perceptual level is scaffolded by Carl Jung’s idea of the archetypal image, pareidolia similar to that of Hermann Rorschach’s inkblot tests, and the stylistic and conceptual aspects of fractalism.
INTRODUCTION

The very essence of human nature is to impose order upon the universe, both around ourselves and within ourselves. We seek to see ourselves reflected in the world around us. Our unique ability to mentally construct and connect patterns, and transpose that order and structure upon the universe, allows us to build cities, create religions, make friends, understand ourselves, and progress in existence both internally and externally.

The body of work presented serves as an expression of this artist’s contemplations on the universe inside and outside the self illustrated through mandalic imagery. Conceptually, the works presented are expressive of contemplations regarding the interchangeable duality of the universe inside and outside the self—the microcosm and macrocosm—as it occurs on the unconscious and perceptual levels through interaction with the viewer. On the unconscious level, interest is held in the sensation of meaning as it is elicited by the viewer’s initial aesthetic judgment. That moment before a conclusion or judgment is realized and feeling—more than thinking—guides the reaction to the image. On a perceptual level, the interest exists in how reaction is guided and suggested through form while maintaining aesthetic relativism. The visual expression of these contemplations is presented stylistically in a conceptual form of fractalism.
INTERCHANGABLE DUALITY

Macrosom and microcosm are often considered a dichotomy, separate conceptual entities in direct opposition, much like light and dark. The macrocosm is the large scale cosmos, the universe outside the self—the infinite. The microcosm is the small scale cosmos, the universe inside the self—the singular. The thematic concept for this body of visual work is that the macrocosm and the microcosm are not separate but the same; they not only reflect one another but are derivative of one another and as such are an interchangeable duality.

The idea of interchangeable duality might best be described as mutually correlating opposites that maintain a sense of the other. It is a concept that has existed for thousands of years. An example of an interchangeable duality can be found in fragments of the writings of the sixth century BCE Greek philosopher Heraclitus. In Fragment 109 Heraclitus states, “In the circle the beginning and the end are common” (Wheelwright 90). In discussing this statement, Philip Wheelwright explains,

The ideas of ‘the end which is also a beginning’ and the ‘beginning which is also the end’ are a pair of archetypal paradoxes that have had a wide appeal to thoughtful men. One set of connotations is temporal, suggesting two ways, a forward and a backward, of looking at the passage of time. In a spatial representation their precarious truth is manifested most clearly in the geometrical figure of the circle. Most important of all, there is a deeper
symbolic sense in which the beginning and end are, or can be and should be, related. (100-101)

Figure 1
*Modern Yin-Yang Symbol*

In eastern philosophies, interchangeable duality is illustrated in the form of the mandala, which will be discussed later, and in Taoism as *yin and yang*. Describing the yin-yang symbol (Figure 1), author Jeaneane D. Fowler notes, “The symbol of *yin* and *yang* […] suggests the existence of both manifest dualities and of the unity of all opposites. Ultimately, reality is a unity not a plurality […]” (76). Fowler also explains that

The circle surrounding *yin* and *yang* symbolizes perfection, and in enclosing them, it encloses all the possibilities and potentialities of the cosmos, at the same time indicating their interrelation. Since neither *yin*, represented by the black (or sometimes blue) area, nor *yang*, represented by the light (sometimes red), are able to exist without each other, a particle of each is present in its opposite. This rather neatly shows how good
always contains the seed or potential for evil, the masculine for the feminine, and so on. (76)

Interchangeable duality is primarily illustrated in the work by the arrangement of visual elements in a manner that produces a sensation of movement both into and out of the composition. One example of this may be seen in Figure 2, where the implied lines and shapes toward the center of the image produce a sense of directional force that primarily provides a push toward the center of the image while surrounding elements pull away from the center. This push and pull relationship is representative of the interchangeable duality of self and the universe.

Figure 2

*La Jornada Otoño*

34” x 20.5”
Digitally Altered Photograph, Large Format Print
2007
While several of the works presented illustrate this push and pull use of directional force as allegory for the interchangeable duality of the macrocosm and microcosm, other works lean more toward one or the other. For example, in Figure 3 we see a distinctive outward pull with a subtle inward push generated by the arrangement of visual elements. Because the outward push is dominant, the concept being presented is concentrated more on the macrocosmic aspect of the duality. In contrast, Figure 4 holds a distinctive inward pull referencing the microcosmic aspect of the duality.

Figure 3
150 Million Years
40” x 40”
Digitally Altered Image, Large Format Print
2008

Figure 4
γνώσις (Gnosis)
37” x 43.5”
Digitally Altered Photograph, Large Format Print
2008
The premise behind the application of distinctively inward, distinctively outward, or both directional force is derived from trinary logic in which a state can exist as true, false, or both. This use of directional force is allegorical of the breathing of the universe. In this allegory, outward movement symbolizes the expansion of the universe and inward movement symbolizes the collapse of the universe. The state of both is intended to indicate the moment between the expansion and the collapse. The inclusion of this allegory is a tribute to Stephen Hawking’s *A Brief History of Time*, which discusses modern scientific cosmological theory and astrophysics. In it Hawking notes, “the universe would expand to a very large size and eventually it would collapse again into what looks like a singularity […]” (143). The duality of microcosm and macrocosm is much like the duality of the two theories used by physicists to describe the universe, the general theory of relativity and quantum mechanics. According to Hawking, “the general theory of relativity describes the force of gravity and the large scale structure of the universe […]” while “quantum mechanics, on the other hand, deals with phenomena on extremely small scales […]” (12). In addition to this allegorical meaning, the inward, outward or both directional forces are also representative of the microcosm, the macrocosm, and the interchangeable duality of both, respectively.

Each work is constructed of a single photographic or digitally acquired image flipped and rotated multiple times. This process directly illustrates the thematic premise of interchangeable duality. Each image is the same and yet, once flipped or rotated, becomes different because it occupies a different space and angle. Additionally, the process employed, while very conducive to symmetrical construction, generates an emphasis on the patterns present in the original single image.
The heavy application of patterns is essential to the illustration of the structure or “essential plan” of the universe, which forms from *apeiron* and allows the universe to be perceived. This is derived from the sixth century Greek philosopher Anaximander’s idea of *apeiron*, which “he concluded that, since the constituent principles of the world as we know it are in a continuous and reciprocal process of transformation, they must themselves have arisen out of some more permanent source that is partially or wholly unknown to us, but which must be such as to offer an inexhaustible store of creative power and material” (Kahn 237). The purpose of the pattern is not to diagram specifically the essential plan of the universe; rather, the function of the pattern is to suggest that law and structure permeate the universe on all levels and to generate unity by the mutual correlation of opposites. One form that may be considered to illustrate this is the mandala.
There are many ways to define a mandala. The most direct definitions would be, “a symbolic circular figure, usually with symmetrical divisions and figures of deities, etc., in the centre, used in Buddhism and other religions as a representation of the universe, and serving esp. as an object of meditation” and “in Jungian psychology: an image or archetype […] of a similar circle visualized in dreams, held to symbolize a striving for unity of self and completeness” (OED). Figure 5 is an example of what a
Tibetan Buddhist mandala looks like and the symbolism present within it. While there is much that may be discussed culturally, historically, and spiritually regarding the mandala, it is only how the works presented are suggestive of the mandala that is pertinent, particularly as archetypal image. The works presented are not intended as objects of meditation relating to any specific religion or culture.

Formally, the term Mandala may be applicable in the sense that the works presented are circular and symmetrically divided. Conceptually, the works are mandalas because they represent the unification and interchangeable duality of universe. Much like Figure 5, shapes and forms that are seen by the viewer in the work are intended to be symbolic. Yet, these shapes and forms do not adhere to any prescribed symbolism; rather, the symbolism seen is derived from viewer’s own beliefs and experience.

The works presented function as geometrically based designs intended as illustrations symbolizing the universe. While a mandala may represent any number of specific things, generally it is a representation of the macrocosm and the microcosm and the interchangeable duality of the two. In *Theory and Practice of the Mandala*, Giuseppe Tucci states that,

[...]a mandala is much more than a consecrated area that must be kept pure for ritual and liturgical ends. It is, above all, a map of the cosmos. It is the whole universe in its essential plan. In its process of emanation and reabsorption. *(sic)* (23)

The compositional elements, such as patterns and symmetry, present in the work are intended to suggest just such a universal plan, or structure, as mentioned by Tucci. In
addition to the work representing the universe it is also representative of the self. In his book, Tucci notes that, “a mandala is, indeed, the ALL as reflected in the ego”(49). If the microcosm is a reflection of the macrocosm, then the compositional elements are not only suggestive of the essential plan of the universe but also the essential plan of the self.

This reflective aspect of the self and the universe is also at play within the works and is suggestive of the spiritual aspect from which the works are derived. The spiritual aspect is the artist’s attempt to make sense and justify the self, the universe, and perception in a manner that requires more faith than fact. As such, imagination, rather than scientific method, is capable of functioning as the bridge between concepts. Additionally, the concepts presented are interwoven into this artist’s spiritual outlook. This spiritual outlook is based upon the idea that the universe and the self are interchangeable dualities separated by unconscious reaction and perception. This, if nothing else, imbuies the work with a spiritual undertone that, while not obvious to the viewer, is present in the production of the work.
UNCONSCIOUS REACTION

While the thematic premise is bound into the work during its production, through use of mandalic form and the spiritual outlook of the artist, additional conceptual interests come into play once the work is completed. The works presented are intended to interact with a viewer. When one of the works is first seen by the viewer, a moment exists before conscious reaction. In this moment, conscious thought has yet to define the reaction and only the sensation of meaning is present.

The use of compositional elements and the mandalic imagery are intended to guide this sensation so that the viewer’s unconscious interpretation is nudged in the general direction toward how internal mental structures mimic external universal structures without directly informing the viewer of what to the think or how to react. It is intended that the viewer’s unconscious reaction coupled with their imagination should generate a bridge unifying these dichotomies. To directly inform the viewer of this interaction and the intended meaning behind the work would influence the viewer’s reaction and interpretation in a manner that would violate the aesthetic of the work. The bridging of the dichotomies must be made solely by the viewer in order for the connection to have any relevance.

The psychological context used to support this nudge is derivative of Carl Jung’s theories of the collective unconscious. The collective unconscious may be described as the sum of human experience throughout history that is ever present in the social
unconscious. The collective unconscious is a kind of inherited knowledge, a universal context, which resides in the background of the unconscious and explains similarities between societies and cultures, both past and present. Particular to Jung’s theory of the collective unconscious is the archetype, which is “[…] an irrepresentable unconscious, pre-existent form that seems to be part of the inherited structure of the psyche […]” and whose concept “[…] is derived from the repeated observation that, for instance, the myths and fairytales of world literature contain definite motifs that crop up everywhere […] and that we meet these same motifs in the fantasies, dreams, deliria, and delusions of individuals living today.” (Jung 380). In discussing archetypes, Jung explains,

It is necessary to point out once more that archetypes are not determined as regards to their content but only as regards their forms and then only to a very limited degree […] . The archetype in itself is empty and purely formal, nothing but a \textit{facultus praeformandi} [power before form], a possibility of representation is given \textit{a priori} [prior to experience]. The representations themselves are not inherited, only the forms, and in that respect correspond in every way to the instincts, which are also determined in form only. (380-381)
The application of archetypal forms in the work is illustrated primarily through mandalic imagery. In discussing the mandala, Jung emphasizes that, “the archetype thereby constellated represents a pattern of order which, like a psychological ‘view-finder’ marked with a cross or divided into four is superimposed on the psychic chaos so that each content falls into place and the weltering confusion is held together by the protective circle […]” (385). This statement provides the basis for the implementation of mandalic form in the work. The work’s mandalic imagery provides an archetypal form for the viewer to connect to, a form that in its archetype is indicative of something holding spiritual meaning. It also provides order to the image by quartering the image which in turn is suggestive of numerological significance. An example of the application of the mandalic archetypal form may be seen in comparing Mandala of Jnanadakini, a Tibetan Buddhist mandala, (Figure 6) with Descensus in Cuniculi Cavum (Figure 7).
Another archetypal format applied to several of the works presented is the golden ratio—also known as the golden mean. The golden ratio is a proportion equal to 1:1.618. This proportion occurs naturally and was first used by classical Greek artists and architects. The spiral of a nautilus shell functions using a reduction of the golden ratio. The Parthenon and many other religious structures utilize the golden ratio in their construction. The ratio is a common compositional device which became popular during the renaissance and continues to be used today.

The application of the golden ratio may be found in the dimensions of several of the works in this thesis. It is applied as an archetypal form for the purpose of suggesting the divine. Additionally, it functions conceptually as an aid to the illustration of the essential plan of the universe. One example of the application of the golden ratio may be seen in Figure 8. Here, the dimensions of each piece within the work function using the golden ratio. As such, when the dimensions are combined they continue to function using the golden ratio. The conceptual premise of this specific work uses the golden ratio to reflect divinity in the mirrored reflection of the self and the universe.
In addition to the golden ratio and mandalic form, many of the works presented suggest through repetition of line and use of directional force a feeling of reduction or expansion that is similar to what is known as the Fibonacci sequence (Figure 9). It is connected to the golden ratio in that “[…] the division of any two adjacent numbers in a Fibonacci sequence yields an approximation of the golden ratio” (Lidwell, Holden and Butler 78). The Fibonacci sequence was developed by mathematician Leonardo Fibonacci in Italy in the thirteenth century. A Fibonacci sequence is defined as “[…] a sequence of numbers in which each number is the sum of the two preceding numbers (e.g., 1,1,2,3,5,8,13)” (Lidwell, Holden and Butler 78). Additionally, patterns which illustrate the Fibonacci sequence “[…] are commonly found in natural forms, such as the petals of flowers, spirals of galaxies, and bones in the human hand. The ubiquity of the
sequence in nature has led many to conclude that patterns based on the Fibonacci sequence are intrinsically aesthetic […]” (Lidwell, Holden and Butler 78). While the patterns of lines within the works were not intentionally produced to adhere to a specific visual sequencing, the patterns are intended to be suggestive of the Fibonacci sequence.

Figure 9

*Examples of Fibonacci Sequence Line Patterns*

The use of archetypal forms also allows for the sensation of meaning to be informed by cognitively relative means. This is supported in the previous quotation from Jung when he says, “The archetype in itself is empty and purely formal […]” (381). While the form may be suggestive by *a priori* means, the content of the form is determined *a posteriori*, from prior experience. Coupled with archetypal forms and the suggestion of forms such as the golden mean and the Fibonacci sequence, which, as stated above, may be considered *intrinsically aesthetic*, the work generates a sensation of
meaning that is unique and personal to the individual viewer while maintaining a common ground. Reaction generated *a posteriori* not only impacts the viewer’s unconscious reaction, it also directly influences how a viewer perceives the work.
PERCEPTION

The patterns and shapes generated by the symmetrical layout of the composition provide another means to which sensation of meaning may be perceived in a cognitively relative manner. Shapes and patterns in each work are visually interpreted by the viewer through pareidolia. Leonard Zusne and Warren H. Jones in their book *Anomalistic Psychology: A Study of Magical Thinking* describe pareidolia as the phenomenon in which

People see all kinds of things in clouds, water spots on ceilings, and other random patterns, for instance, a man’s face in the moon’s surface. These images are called *pareidolia*. The principle underlying the famous Rorschach inkblot test is that verbalized pareidolia will reveal the subject’s unconscious life and wishes as these are projected upon the diffused, ambiguous blots. In other words, given an unstructured stimulus and the proper incentive (such as instruction or self-instruction), people will attribute structure to it that reflects their personality dynamics. (77)

The shapes and patterns formed through the mirroring of images create pareidolia within the work in a method similar to the Rorschach Ink Blot Test.
A comparison between the first card in the Rorschach Ink Blot Test (Figure 10) and a detail of the lower left segment of *Square* (Figure 11) illustrates similarities between the Rorschach shape and the shapes present in the work presented in this thesis. The shapes present in figure 11 are intended to be open to interpretation by the viewer. While the viewer might see a bat or a bird or something else in figure 11, just as they might in figure 10, what they see is determined initially by their unconscious reaction (Exner 156). This reaction is then filtered *a posteriori* and perceived in a manner which is relative to the viewer. The intention in the work is that the interpretation of the shapes present in the work is illustrative of the transposition of internal, microcosmic structuring of reality upon the external, macrocosmic reality—in simpler terms, how we see ourselves reflected in the world around us. This echoes an idealism that the substance from which the universe is made, the *apeiron*, is self and perception.
Whether or not the viewer comes to understand the conceptual premise upon which the work is built is irrelevant. The purpose of the work is not to inform, but to suggest. No two viewers are intended to perceive and understand the work in the same way. This is because no two viewers perceive the universe in exactly the same way. While some of the operable concepts may be somewhat Platonic, the interaction between the work and the viewer is intended to be aesthetically relative.
Stylistically and conceptually, the works presented in this thesis are most akin to fractalism. The definition of this style that is applicable to the work is best described in an article from *Leonardo*, a journal for artists who use science in their work. The article, *The Fractal Artist* by Susan Condé, has played a significant role in the consideration of this work. In the article Condé says,

> Fractal artists project a fractal imagination of the world through their work. It is a world in which space has become fractal--i.e. imploded, dense, hyperactive, interconnected [...] contemporary fractal artists seek to reflect the condition of space in their time as they perceive it, with its fractal dimensions and qualities. For the fractal artist, the physical and psychological landscape of today has nothing to do with the Cartesian-Corbusien concept of space that has dominated contemporary architecture. The fractal artist sees the utopianism of the Euclidean form as a vestige of Cartesian philosophies formulated around the concepts of measurability and predictability. The fractal artist believes that the Cartesian model excludes the irregularity and dynamics of reality, as observed in the physical cosmos as well as in human nature. (3)

Under this definition of fractalism the works presented might be considered fractalism. Formally, the space within the works is presented in a fractal manner. That is to say it is
“dense, hyperactive, and interconnected” and through this is intended to reflect “[…] as observed in the physical cosmos as well as in human nature” (Condé 3). Additionally, the work is intended to suggest, through its patterns and archetypal forms, the mathematical resonance that is customarily associated with fractalism.

The works presented may be seen as counter to Susan Condé’s summary from Leonardo because of its strong use of suggested Euclidean form and the predictability generated through the application of the mandalic archetype. Admittedly, this artist has an affinity for Euclidean geometry. This affinity may not be strong enough to disqualify the work from being considered fractal because it is the intention of the work to be aesthetically relative and as such illuminate the unpredictable and immeasurable effect of individual perception.

The work is also concerned, on a formal level, with the interconnection of space and form. The abundance of positive and negative shapes generated by the symmetrical reproduction of a single image generates an active compositional space. The interaction of shape and space also supports the concept of interchangeable duality on the perceptual level, which may function, both formally and conceptually, as allegory to the dynamics of human interaction in an increasingly complex world.

One contemporary artist whose work contributed to the determination that the works presented in this thesis may be stylistically categorized as fractalism is Susan Derges. Derges is a British photographer whose images, as described by Condé, are “[…] projections of turbulence, disorder and order, instability and bifurcating structures; in short, her works form themselves from the vocabulary of chaos and complexity.” (4).
Figures 12 and 13 are two works by Derges that illustrate visual qualities similar to the works presented in this thesis.

The works of Susan Derges are relevant to the works presented in this thesis through their use of space and shape. In Figure 12, River Taw (ice), the lines of the broken ice intersect the space in a manner that is structural and dynamic. This naturally occurring abstract image is similar to the images that form the visual basis of the work presented in this thesis. Figure 13, Chladni Figure, illustrates the basic geometric structure and both Figures 12 and 13 illustrate a similar level of monochromatic contrast that is used in the works presented in this thesis.

Fractalism, in addition to Condé’s description, is generally considered to be mathematically based. Fractals “are geometrical shapes that, contrary to those of Euclid,
are not regular at all. First, they are irregular all over. Secondly, they have the same degree of irregularity on all scales. A fractal object looks the same when examined from far away or nearby - it is self-similar” (Mandelbrot). While the work presented in this thesis, much like that of Susan Durges, is not pure fractalism in the mathematical sense, it is suggestive of fractalism in its methodology of self-similarity and the manner in which the space is divided. The works presented in this thesis also indicate fractalism in their use of repetition of geometric pattern. Of the works presented, one that pays tribute to mathematical fractalism is triangle (Figure 14). Triangle is based on the form of the Sierpiński triangle (Figure 15), one of the simplest fractals to reproduce.

![Figure 14](image1.png)

*Figure 14*

*Sierpiński* 49.5” x 45”

Digitally Altered Photograph, Large Format Print

2007 - 2008

![Figure 15](image2.png)

*Figure 15*

*Sierpiński Triangle*
Self-similarity, the ability to look, as Mandelbrot says, “the same when examined from far away or nearby”, is found in the thematic concept of interchangeable duality. Even though Mandelbrot’s intent in this description of fractalism may be considered visual or mathematical, “Far away” and “Nearby” can be considered questions of perception. We see ourselves reflected in the world around us, and we see the world around us reflected in ourselves. The interchangeable, paradoxical nature of this theme remains constant no matter how the concept is scaled.
CONCLUSION

The concept, the thematic premise, of this body of work is to serve as a visual expression of spiritual and philosophical contemplations regarding the paradoxical notion of the interchangeable duality of perception of self and the universe. The visual function of the work is to interact with the viewer in an aesthetically relative manner that emphasizes conceptually the unique and individual nature of the self.

It may be considered paradoxical to think that contained within one’s self is an entire universe. Yet, the idea of interchangeable duality, mutually correlating opposites that cannot exist without one another and when reversed serve the same function, has existed for thousands of years and can be expressed in something as simple as a circle. At the heart of mandalic imagery is the circle, a very simple form which contains complex spiritual and metaphysical meaning. It has been seen to represent the sun and the moon, the beginning and the end, the self and the universe, the cycle of time, and many others. The idea of interchangeable duality is represented throughout the works presented in this thesis through the circle, whether present, implied, or conceptually. It is also represented through the symmetry generated by interchangeable images and the reflection of forms.

The use of archetypal imagery, particularly the mandalic form, and the application of shape, space, and pattern are used in the work not only to illustrate the idea of interchangeable duality but to engage and guide the viewer in an aesthetically relative manner. In an interview with Orion Magazine, photographer Chris Jordan states, “[…] I
am looking to evoke the tools of poetry and literature—symbolism, metaphor, and the unconscious—to try to push the message beyond straight photography” (Colberg). In the works presented in this thesis, the interaction with the viewer is intended to move beyond the image. The suggestion of symbols through pareidolia and archetypal imagery is intended to spur the viewer’s unconscious and conscious into a visual exchange of self and image. This conceptual exchange raises the question, “Is the work informing the viewer or is the viewer informing the work?” The answer is both! The work and the viewer, in the visual exchange, inform one another and become an interchangeable duality.
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fractals--a-geometry-of-nature-fractal-geometry-plays-two.html>.


APPENDIX

LIST OF THESIS IMAGES ON COMPACT DISC

1. *150 Million* Years, 2008. Digitally Altered Image, Large Format Print, 40” x 40”.

2. *9°*, 2008. Digitally Altered Image, Large Format Print, 34.5” x 40”.

3. *Altar*, 2007. Digitally Altered Photograph, Large Format Print, 51” x 38.8”.

4. *Descensus in Cuniculi Cavum (Descent into the Cave of the Rabbit)*, 2007-2008. Digitally Altered Photograph, Large Format Print, 40” x 40”.

5. *γνώσις (Gnosis)*, 2008. Digitally Altered Photograph, Large Format Print, 36” x 41.5”.


