The Space of Creativity:

Hypermediating the Beautiful and the Sublime

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ABSTRACT

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This thesis will consider the creative process of the arts as a life method that awakens an awareness that develops thinking, aesthetic inquiry, creative activity and heuristic reflection of the *beautiful* and the *sublime*. The argument of this thesis situates lifelong learning as a creative approach (endorsed by Ramon Cortines) to fulfillment that wages battle with conformity, conventionalization and politicization (Margaret Spellings and NCLB) at the expense of emancipation. What does it mean to be a lifelong learner who contributes as a citizen in the year 2005? The argument for this question will consider the space of the sublime as the place of learning.

This thesis begins with two leaders in the field of education who comment on the current role of education in the United States, Ramon Cortines and Margaret Spellings. Central to this argument is an examination of the disparate views between leaders in the field of education that pit *logic* against *imagination* and creativity and of the differing views held by various philosophers, thinkers and educators throughout history as to the objective of education and the means by which we achieve knowledge. Martin Heidegger suggests the need to understand the historical past and remove any decisiveness from the subject. Plato contends that education is about lifelong learning as citizens who contribute to their world. Creation myths are considered as the framework for our contemporary understanding of the creative process of learning. Kant posits that the way we reach creative understanding is through the analytic and synthetic judgment, both of the beautiful and the sublime. Schirmacher stresses the importance of the thesis - antithesis approach to knowledge.

The way we communicate is first an act of choosing our own *medium of expression*, be it words, facial expression, body language, image making, dance, logic or thinking in virtual reality. This chapter moves from Plato's notion of medium as substance to Dewey's understanding of medium as an agent of artistic expression. Merleau-Ponty suggests that we are in a relationship with medium that IS our world. While aesthetics refers to the beautiful to most people the sublime introduces abject media and unconventional methods which open new possibilities for conceptualizing media into knowledge. The electronic apparatus opens new ways of learning through hypermedia that suggests a shift from the age of literacy to the age of electracy.

This investigation will pursue a philosophical orientation of the creative space and its relationship to the process of lifelong learning. Education systems should prepare individuals to creatively choose their own path towards fulfillment. A decision to act toward one's own fulfillment is what Badiou calls a superposition of a "fiction of knowing" and a "fiction of art." Assessment as a proving ground for educational success pits philosophy against ideology. Ronell speaks of the impossibility of "excellence" through the test, while Schirmacher says that freedom of failure is what makes art possible. However, Agamben describes the opposite effect when artificial ideals emerge in a "state of exemption," that arises when a political system thrives in an unending "state of emergency." Badiou's remedy suggests a fidelity to an event as one's own ethical assessment. Aesthetics opens a space for learning through the arts by bridging imagination and reason. The argument concludes with Derrida, Walter and Ulmer considering a rethinking of the Greek concept of "chora" as the creative space of learning.

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Dissertation Project

- Light & Shadow: The Pan American Exposition 1901-2001. Dissertation Project, Video installation with 45:00 min. DVD. 3 video projectors. 3-D virtual reality.

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0: Introduction: Starting from a Void

This thesis will consider the creative process of the arts as a life method that awakens an awareness of our world which induces philosophic thinking, aesthetic inquiry, creative activity and heuristic reflection of the *beautiful* and the *sublime*. The argument is towards rethinking the place of the sublime in aesthetics as having a vital role in the philosophy of learning through the arts.

Aesthetics can be thought of as an awareness of something beyond sense and reason that describes the boundary of learning. A beautiful sunset or the horrors of 9/11 are examples of the kind of range that expresses the sublime[1]. The arts as an aesthetic process offer an approach to learning that allows a playful way to explore learning actively. Alexander Gottlieb Baumgarten[2] first coined the term aesthetics but it was Friedrich Schiller[3] who described aesthetics as the condition where sense and reason are active at the same time causing a mid disposition where the psyche is free to explore without constraints. Aesthetic character for Schiller was free from compulsions while being compliant to laws; openness, but not anarchy. Aesthetics for Schiller allows an individual to educate his or her whole self: health, understanding, morality and taste. Aesthetics can then be said to open the possibility of an ethical self-assessment that poeticizes lifelong learning.

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1 The writer Edmund Burke published A Philosophical Enquiry into the Origin Of Our Ideas of the Sublime and Beautiful in 1756, and defines the power of the sublime on our senses: "Whatever is fitted in any sort to excite the ideas of pain, and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the sublime; that is productive of the strongest emotion which the mind is capable of feeling."1Burke was the first to explain the sublime and the beautiful in regards to the process of perception and its effects on the perceiver.

2 Alexander Gottlieb Baumgarten (1714-62): *Aesthetica* (1750)

3 Friedrich Schiller, Letter of an Aesthetic Education of Man. Twentieth Letter. Continental Aesthetics, p. 43

Immanuel Kant further builds on aesthetic theory considering reflection of the beautiful and the sublime[4]. The question must be asked: how does the creative space of the arts, through one's understanding of the reflection of the beautiful and the sublime, become a conducive ground for engaging the senses to make decisions that construct ideas that can be synthesized into knowledge?

How we think about the space of learning should include creative exploration and acting on choices that model the freedom that all citizens share. Action and aesthetic reflection of the beautiful and sublime allow experience to embrace the limits and the limitlessness of our own creative self in a search for fulfillment. How we embark on this journey of self creation follows a process that is both open to possibilities and, conversely, framed by demands that make up daily living in a post modern world. Learning to understand contradiction is as important as learning facts. Dealing with contradiction is understood within the first few moments of being born: with our first cry, we learn how to breathe and for the next two decades we are schooled, educated, trained and formed into citizens.

For Plato the goal of learning was to produce an informed citizen who debated meaningful issues of the day, using the method of rhetoric. Plato's method of dialogue and disputation of life was a process of resolving differences through thinking, problem solving and thoughtful argument. Plato first defined the word *citizen* to describe a freeman of Greece who was educated in the methods of becoming an ethical contributor to their utopian society. While the postmodern condition has resolutely attacked any possibility of a utopia, it has also restricted learning goals through the systemizing of education methods and ideologies that limit the objective of learning to excelling at tests.

4 Immanuel Kant in his book Critique of Pure Reason, A 20

The argument of this thesis situates lifelong learning as an approach to fulfillment that wages battle with conformity, conventionalization and politicization at the expense of emancipation. The philosophy that leads an individual to be a lifelong learner who *contributes*, finds in aesthetics a condition that lacks external judgment thereby opening a space for free experimentation. This also describes aesthetic education as a model for learning. (See research appendices; *Partnering: Theory and Practice*; *Curating Art: Lessons for the Classroom Teacher as Curator*).

Aesthetic education is nothing new. Lincoln Center Institute's pioneering work in aesthetic education had from its beginnings the guiding philosophy of Maxine Greene whose theory traces itself through John Dewey, Immanuel Kant, Paolo Friere and Ivan Illych. Greene suggests that what aesthetic theory provokes in the classroom is engaged perceivers acting on behalf of their own choices in determining outcomes[5]. The implicit social justice evoked by the above philosophers establishes learning as a process of emancipation; Dewey presents art as one's own experience, Kant presents aesthetic critique and ethical self-judgment, Freiere teaches the oppressed *compasinos* to read and recognize their plight and Illych exposes the negative agenda of curriculum as an instrument of conformity. The implication of aesthetic education is that learning is in the hands of the student. Other early progressive education programs like Montessori, the Lincoln School at Teacher College, A.S. Neill's Summerhill School, and the Waldorf School had philosophies that considered the education of the whole, integrated life. While many progressive schools have a place for the arts in student learning, aesthetic education places the arts at the center of learning through the creative process that is led by aesthetic judgment. How does aesthetic decision open a space for learning?

The first chapter of this thesis begins with two leaders in the field of education who comment on the current role of education in the United States.

5 Maxine Greene, Variations on a Blue Guitar. Notes on Aesthetic Education (1980) p. 7-11.

Their comments about education can be compared to Plato who contends that education is about lifelong learning as citizens who contribute to their world by generating something new. Another objective of this chapter is to consider an historical perspective on the creative process and its role in generating the world we call humanity. This thesis will consider the role of the arts as an integral foundation to acquiring literacy, critical thinking and a sense of fulfillment. Also, the arts go further by opening a creative space for an awareness that speaks to Plato's idea of constructing lifelong learning.

Creativity as a individual and public event is expressed in Chapter One as an active process. In Chapter Two a new question must be addressed as to the substance of knowledge that is communicated: what is the significance of medium in the creative choice of expression? Heidegger, Kant, Merleau-Ponty, Dewey and Ulmer frame a perspective of medium in the creative process that shifts from *literacy* to *electracy*. Electronic networks of hypermedia, such as, the Internet, e-mail, RSS feeds, blogs, instant messaging, satellite broadcasts and public forums require new ways of thinking about what makes communication medium. How do electronic technologies enable creative thinking, heuristic activity and aesthetic reflection?

In Chapter Three the notion of the creative space of learning is considered through education systems that shape and determine how most people feel and think about knowledge. What contributes to a creative space of learning that fulfills life learning? Where is the creative space of the twenty-first century learner? The need to understand multiple learning methods that reach a world citizenship requires a look at modes of communication that have changed since the advent of the electronic age. The topology of this new global communication cannot be understood by words alone and demands a rethinking of the methods that communicate the potential of this new electronic medium with its icons and hyperlinks. A philosophy for this innocence of becoming requires a space for creativity as the subject of aesthetic reflection of the beautiful and sublime. While

the current state of aesthetic education addresses the aesthetic reflection of the beautiful it is the aesthetic reflection of the sublime that exposes the limits of conventional knowledge and opens a creative space for learning.

Media Project: Light & Shadow

This thesis also includes an Intermedia artwork titled *Light & Shadow* which creates the space for a *hypermedia exposition*. The task of this project was to infuse philosophy into the artistic, curatorial, musical, educational, historical and personal aspects of the artwork. Not as a limit but as another way of making new associations. Walter Benjamin's concept in his *Passagen-Werk* was to rethink history through a presentation of "dialectic images" that change our interpretation of history. Alain Badiou's definition of philosophy suggests we construct a "fiction of knowing" and a superposition of a "fiction of art." This hypermedia installation uses images from the Pan American Exposition of 1901 as a fiction of knowing (a socio-historical exposition portrayed through the diary of a young girl who traveled to Buffalo in 1901 from Saegertown, Pennsylvania) and a superposition of a fiction of art (the diary of an artist's journey to Buffalo from Chester, New York in 2001). Badiou suggests that a void is opened in the gap between these fictionings where truth is seized. As such an experiment begins to awaken the possibility of noticing the space that opens between historical events and an individual's place in the present as the creative space of learning. An intermedia performance allows perceivers to experience words, images, icons, sounds and animations as an environment of individual meanings orchestrated into networks of different points of view, all available for inquiry: knowledge is actively experienced as hypermedia rather than a linear reading of a text.

An educational component to this project meant partnering as a Teaching Artist with four school districts in Buffalo which also created artworks that related to the theme of the anniversary of the Pan American Exposition of 1901. Each

school district chose one class with students participating in art, technology, photography, painting and sculpture. Students were asked to make an artwork that represents their generation's contribution to the world. The students created their own curatorial staff that organized a "Youth Pavilion" art show that was presented alongside *Light & Shadow* at the Burchfield Penney Art Center.

1: Creative Process

Education: Creativity and Knowledge

"Let me show in an image how far our nature is educated or uneducated**…"**

Plato, The Republic

How nations educate their young has a direct association to the openness or narrow mindedness of the people of that nation. However something happens when we start thinking about *learning* rather than *teaching*? How do the arts open a space for creativity that is conducive to understanding the beautiful and the sublime of education?

In the January 2005 edition of Education Update,[6] Ramon Cortines, chancellor of New York City schools from 1993 to 1995[7] was interviewed by Pola Rosen. When asked what his goals for the school districts were his response was, "Education is about creating a community of contributing citizens." Cortines describes his teaching method as an investigation into the inner lives of his students: finding out what they are good at and calling attention to the value of a student's response. This education practice is considered to be student-centered because it relies on a student's own motivation for learning. Cortines calls himself a co-learner and suggests a variety of methods that provide individualized instruction through an interactive process that opens students to a larger community, and to "the joy and spirit of the community." Cortines continues "– all those things come through the arts." He also identifies the obstacles to achieving these goals. Cortines contends there are numerous programs and standards that are suppose to address learning objectives, but teachers have very little time to work together at linking objectives across disciplines.

6 Education Update is printed in New York City and it's web site is visited by 3 million readers annually. www.educationUpdate.com.

7 Ramon Cortines was later the superintendent of school districts in San Francisco, San Jose and Los Angeles.

Consequently there are few people who know how to connect the dots between the complexities these programs address. He suggests that it is critical for teachers to be able to have an understanding across disciplines to see that "math is literacy." That is, *numbers* are a language that allows us to become *mathematically* or logically literate. Cortines states that the other obstacles for teachers today are the heavy demands of meeting the requirements of "getting the test scores up."[8]

When Margaret Spellings was sworn in to her new post as secretary of education in January of 2005 she repeated the mandates of the Bush administration's education reform law, No Child Left Behind (NCLB). The law demands yearly tests to track progress in reading and math as measured by test scores. If students do not pass the tests they are left behind to repeat the grade level the following year. Schools that fall short of these mandates are penalized by cuts in funding. Spellings says "When you [President Bush] signed the No Child Left Behind law three year ago, it was more than an act - it was an attitude. An attitude that says it's right to measure our children's progress from year to year."[9] The means of assessing this goal is *the test*. The method of the NCLB law is defined as learning through the rigor of scientific logic. For teachers this law means lesson plans are restricted to meeting these new standards and in many schools the bulk of learning time is devoted to preparing students for tests. The demand on students to past these tests begins at eight years of age and this practice is extended through high school. Schools are asked to assign only teachers who are trained in the field of study for each subject under study. Put simply, tests are consuming the space for learning.

Both of these education theories share a common goal of preparing children for a future world. The mandate of NCLB certainly suggests a desire that

8 Rosen, Pola. "Profiles in Education: An Interview with Ramon Cortines." Education Update [New York, NY] Jan. 2005. Volume X, No. 5, Pages 7-9.

9 "Education chief touts No Child Left Behind, The Associated Press. Times Herald Record, Tuesday, February 1, 2005.

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every student move on to success. Cortines' "community of contributing citizens" not only expresses a desire for a learning community, but also for students to become contributing citizens. However in some significant ways the two educational theories are also conflicting. Cortines' theory starts with the needs and desires of a student as the entry into learning and Spellings' theory starts with a desired outcome that is *method* driven. In other words, one theory is *student centered* while the other is *curriculum centered*: the former theory trains students to think independently; the latter trains students to follow the rules. Clearly there is a dilemma in deciding the process of education. While the test is easy to quantify, what does it reveal about understanding and application to life? What kind of future does the test prepare someone for? How do the arts address a holistic method for student learning? Cortines is quite clear when he states that the arts are a good means of realizing these goals. He goes on to say that social and cultural issues are important in developing young citizens and play an important role in his education goals which address the whole child, not just the intellect. How does someone assess the interdisciplinary learning that comes through the arts? Cortines admits that assessment of this creative process is lacking because teachers have not learned to make connections that link multiple disciplines. Spellings' approach does not include the arts. Einstein once said, "it is the supreme art of the teacher to awaken joy in creative expression and knowledge." What can a teacher do to awaken the joy of learning?

Perhaps Plato can shed some light on the contradictions in the world of contemporary education. What comes to mind in Cortines' comments about "a community of contributing citizens" is its relation to Plato's notion of developing citizens. Plato's The Republic is said to be the first example of education method and frames our own contemporary educational and democratic process. Plato constructs an image of the ideal state in which freedom, justice, knowledge, imagination and education co-exist. What is the task of education and what is the measure of its success? Plato states that the first responsibility of leaders of the ideal state is to focus on education, not only for the young, but also for everyone,

as learning does not end in childhood but continues through life. It is Plato who first imagined a higher level of learning through the arts and sciences.[10] In Plato's time art and science (*ars sciens*) was not independent, but fused theoretically. For example a sculptor needed to know how to produce bronze to make a casting of his created form.[11] A question might consider how the arts can be used in such a way as to restore the unity between logic and expressive medium: thinking in paint or math literacy.

How does creativity open a space for awareness and action that presents unexpected encounters with self and the world? What is the appropriate method of creating good citizens? Plato is considered by many to be one of the greatest teachers throughout history. As a student of Socrates, Plato uses his mentor's question strategies[12] to get at the heart of knowledge along with argumentation and demonstration called rhetoric. At the time of Plato the distinction between the creative process of the arts and the logic of science was fused within the term *ars scientia* (art science). Plato's method moves his dialogues forward through the art of careful questioning he calls the Socratic Method. Plato masterfully weaves questions that draw out specific details and considerations that synthesize understanding into knowledge. However, later in his life, Plato began to develop his own theory of "idea" or "forms"[13] and his method of delivery shifts to a more logical critical philosophical examination or exposition. What we see here are two important techniques in Plato's method. First, questions form the basis for a dialogue between him and a small group of students. This dialogue is kept going by further questions[14] that are directed towards reason and intelligible

10 Jowett, Benjamin. Introduction to Plato's Republic. World Wide Web; The Internet Classics Archive at MIT http://www.classics.mit.edu/Plato/republic.1.introductional.html

11 Lahanas, Michael. Ancient Greece: Science , Technology, Arts and Other Interesting Stories. http://www.nlanas.de/Greeks/Greeks.htm

12 See chapter 4. Conclusions: Questioning Questions for details on question strategies.

13 Plato's theory of "forms" suggests that reality can only be that which is conceived by intelligence and reason, as apposed to, being conceived by option with the help of the senses and without the use of the faculty of reason.

14 Multiple choice questions along with yes and no questions reveal facts and information and generally inhibit the process that synthesizes knowledge: this is the problem with the test.

understanding. Second, once Plato creates his own theory, his method of teaching is transformed to a style of exposition through a self-critical examination or dialectic.

How can philosophy guide the construction of an education method that considers thinking and knowledge acquisition across intelligence domains that foster reason and imagination? In the words of Plato, "seeing" is one of life's greatest assets. "The sight in my opinion is the source of the greatest benefit to us, for had we never seen the stars, and the sun, and the heaven, none of the words which we have spoken about the universe would ever have been uttered."[15] Plato gives homage to the relationship between seeing and knowledge:

> But now the sight of day and night and the months, and the revolution of the years, have created number, and have given us a conception of time, and the power of enquiring about the nature of the universe; from this source we have derived philosophy, than which no greater good ever was or will be given by the gods to mortal man.[16]

The source of our knowledge is that we *notice* the things in our world. The intuition of our noticing he suggests gives rise to our reason that *constructs knowledge*.

Plato says that seeing gives rise to language; noticing the revolution of years gives rise to numbers or math/logic and inquiry about the universe gives rise to science. Plato also presents the notion that the method of seeing is not accidental but led by inquiry. It is noteworthy that Plato presents the sense of *seeing* as a vital link to the creation of language as communication. *Noticing* is a

15 Plato. The Republic. Translated by Benjamin Jowett. Cambridge: Massachusetts Institute of Technology. Book X.
16 Plato. The Republic. Translated by Benjamin Jowett. Cambridge: Massachusetts Institute of Technology. Book X. http://clasics.edu/Plato/republic.1.introduction.html

kind of seeing over time that discovers logical patterns, relationships and systems. *Noticing* occurs when *seeing* becomes *transactional seeing*, which happens over time. For Plato *questioning* the nature of the universe imparts scientific *knowledge*.[17] Plato's process reveals a method for creativity where *noticing* and *thinking* are a give and take experience that leads to a productive understanding of the world. Plato suggests there are multiple intelligences and learning modalities at play in this understanding which is made possible by noticing. From the earliest examples of Greek philosophy we find a method for knowledge based on observations or empirical knowledge which gives rise to analysis or logical knowledge. And we can finally deduce first causes.

The Socratic Method that Plato engages in is more in line with Cortines' process of a student centered approach to learning that encourages students to become contributing citizens. By contrast, Spellings' NCLB method is driven towards passing the test or following instructions.

Question Strategies: Maps of Approximation[18]

Martin Heidegger suggests that a *question* must be able to understand itself as being of its own *historical past.* To start with a question on *creativity* it is necessary to consider the history of the subjects within this subject: creativity, invention, art, self, media, philosophy, interdisciplinarity, method and communication.[19] The outcome of these questions will suggest a mapping or network of ideas that approximates an understanding of the idea of a creative learning space.

17 Ibid.

18 Maps of Approximation is a term devised by artist , John Singer, to describe the fractal nature of conceptual images portrayed in his paintings.

19 Heidegger, Martin. Being and Time. New York: Harper & Row, Publisher, 1962. H-22

What kind of question strategy would isolate the critical categories that reveal what it takes to create a self that is both oriented to the possibility of imagination (arts and sciences) and the necessity of reason (mathematical and linguistic) in the pursuit of fostering citizens who contribute?

Heidegger contends that the nature of question strategies and the historical past of this subject matter should “stake out the positive possibilities of the tradition” that this question explores and at the same time uncover the negative side of the idea under study through a “destruction [that] does not relate itself towards the past: its criticism is aimed at **'**today**'** and at the prevalent way of treating the history about an ontology.”[20]

A first question should consider the history of the subject of creativity through a timeline that may reveal periods in history where creativity and invention occur. This question on creativity should be addressed to interdisciplinarity where evidence can be seen through multiple disciplines and systems of beliefs from cultures around the world. This timeline will allow us to locate the positive aspects of creativity across disciplines as we consider the development of a contemporary definition of creativity. In science a positive outcome of creativity is seen in the invention of new technologies. The camera and optical sensors create eyes into areas of nature that were unimagined a century earlier: sonar, radar, laser and optics. In art the invention of the camera opens new possibilities in visual ways of communicating: film, movies and digital imaging. In communications a global network opened through invention and discovery: radio, telephone, TV, teleconferencing and the Internet.

Heidegger suggests that the negative side of the results of this creativity should be uncovered as it influences our current history. Heidegger maintains “in principle, we carry out this destruction only with regard to stages of that history

20 Ibid. H-22

which are in principle decisive."[21] So a question on creativity would certainly need to shift focus to a variety of situations that are *decisive* and influence creativity. Good social programs, like the GI Bill, equal opportunity and human rights programs opened the door to higher education without the decisive training that was mandated during the Cold War that only funded education programs that contributed to the war effort. It is this framing of knowledge that narrows the way in which we view our world. It is only this predetermined framing by politics, religion and culture in the present that must be removed so that *openness* can allow for a new understanding of the subject at hand. Documentary filmmaker Joan Grossman explores history by suggesting, "one thing I have examined in my work was the way in which history continues to arrive always open to reinterpretation, never fixed in the past."[22]

Furthermore, Heidegger requires that our question consider the temporality of our being in the present: "Entities are grasped in their Being as presence." [23] This means that entities are understood with regard to a definite point in time**--**the present. Lastly, Heidegger states that the nature of this question should have a relationship to the method of investigation, i.e. a phenomenological investigation. Heidegger continues, "Thus phenomenology means to let that which shows itself be seen from itself in the very way it shows itself from itself."[24] By removing the decisive we can truly notice what is there. This is a call for a method that favors an ethical logic as opposed to a moral judgment or a judgment of taste.

Wolfgang Schirmacher, in his article *Homo Generator: Media and Postmodern Technology* contends, *" Revealing* deconstructs, opens up, tears the fabric of the known."[25] Heidegger suggests that truth is not about being right

21 Ibid. H-22

22 Joan Grossman, form interview

23 'gegenwartig', means a "waiting-towards' in German.

24 Martin Heidegger, Being and Time, H-34

25 Martin Heidegger, Being and Time, H-21

or wrong but about accepting "aletheia," the powerful interplay of revealing and concealing, that shapes humanity's destiny."[26] Heidegger defines the *concealing* as the undiscovered, the buried, the disguised**,** or the accidental concepts that must be "drawn from the primordial sources."[27] The desire to understand requires a disposition that is open to contradiction. Discovery distinguishes itself as a process whose root meaning is *the opposite of covering or hiding*. It positions itself in a relationship with an opposite. Discovery must be open to possibilities of success and failure.

The question remains: How does education prepare citizens to uncover the buried truths that are hidden by decisive judgments? In formulating a question strategy we must define the subject (the creative self) and its surrounding elements (the world we live in). As such, the questions of this thesis must accomplish a variety of tasks:

1. What is creativity? Define the what, when, where and why of creativity as a space for learning. How do reason and imagination relate to creativity?
2. What is the medium-meaning of life? Present a philosophical focus on a *self* that is in relation to a *present* world, that is, a self-created world of media.
3. What is the *space* of *creativity?* What is the creative space of the moment? How does someone go about creating a space for learning that also allows for something to be contributed? *Why the* arts? Within the space of learning Aesthetic Education can be a model for exploring choices in constructing worlds. What is a proper assessment tool for creative learning?
4. How does intermedia art open a philosophical exposition? Present the theory and practice of intermedia exposition: Light & Shadow; 2001,

26 Wolfgang Schirmacher, Homo Generator: Media and Postmodern Technology. P. 68

27 Ibid. H-36

DVD, an intermedia video and fabric art installation that layers personal histories that coincide with the 1901 Pan American Exposition in Buffalo, New York. Furthermore, a philosophical question becomes an Intermedia artwork when it opens possibilities that awaken noticing, creating an aesthetic transaction between self and the world.[28]

"The important thing is not to stop questioning"
Albert Einstein

Creativity and Symbolic Language: Transforming the Medium of Earth

A timeline of history can be used to measure the development of human creativity through artifacts, inventions, artworks[29] and evidence that reveals philosophy, knowledge and behavior. Just as the Stone Age tools developed by early hunter-gatherers were an advantage over bare hands, the metal of the Bronze Age made possible harder, sharper, more durable tools that were an even greater advantage. From these earliest times we discover branches of knowledge that are revealed in the images of a world directed by a creativity that is driven by immediate *needs* (food, water, shelter, tool) and *desires* (dreams, imagination, myths). The connection between knowledge and medium has been closely linked throughout history.

Some of the earliest examples of human creativity can be seen in Stone Age tools, pottery, sculptures and cave paintings with designs and symbols that suggest a visual language. The birth of the first representations is somewhere around 40,000 BC. One of the first examples of European art is Stone Age sculpture that represents figures and symbols. Art historian Helen Gardner in her book Art through the Ages suggests a thoughtfulness in these early creations: "By this original and tremendous feat of abstraction, Aurignacian and

28 A chain of connected experiences that define multiplicity.

29 Does invention serves the production of needs and creativity nurture desire?

Magdalenian men were able to fix the world of their experience, rendering the continuous process of life in discrete and unmoving shapes that had identity and meaning."[30] An example of this early communication through art is found in a cave in Northern Spain.[31] Gardner suggests these early representations of hunting scenes showing cows and horses, along with shapes and symbols and oddly enough human hand prints,[32] reveal concrete thinking about the world as well as a symbolic presence of self. Our ancient ancestors left a visible mark on a cave ceiling that reveals a 30,000-year-old visual language that suggests creative action and thinking.

The history of creativity will begin with Plato and highlight the significant philosophers that shaped our thinking towards a contemporary understanding of the issues around the notion of creativity. A question that considers creativity over time would have to compare inventiveness across disciplines to develop a broad definition.

Archeologist Denise Schmandt-Besserat explains, "Mesopotamia provides data that illustrates the step by step evolution of data processing from 8,000 BC to the present…. Clay counters of many shapes – tokens – were used to count goods; cattle, grain, oil and textiles."[33] Early accountants used pictographs to identify merchandise. Shippers could press a cut reed into a soft piece of clay and leave a series of marks that represented an image of an item being shipped and a second image of the destination. Labels attached to Egyptian pottery and merchandise identified what was shipped up and down the Nile.

30 Helen Gardner, Art Through The Ages, p. 13

31 Discovered by a child who first discerned the shadowy forms on the caves ceiling.

32 The first use of spray paint can be attributed to early cave artists who created hand-prints by spaying a mouthful of a solution of pigments and water over their hand-as-template

33 Schmandt-Besserat, Denise. When Writing Came About. Austin: University of Texas Press. 1996. In Earliest Egyptian Glyphs, by Michael Larkin. Archaeology.org http://www.archaeology.org/9903/newsbriefs/egypt.html p. 1

The early use of pictograms predates language by many millennia. However, there is a moment in time where pictograms were not descriptive enough to communicate more complex relationships. Gunter Dreyer describes a clay tag that was different in that it was inscribed with two symbols, that of a stork (ba) and a chair (fet). This combination did not make sense when literally interpreted. However, there was phonetic significance of Ba-fet, a city on the Nile delta. The pictograms combined in phonetic syllables show an early stage of language where the sound of the inscribed image equals one syllable in a two-syllable name[34] or as Schmandt-Besserat suggests, "…personal names could not easily be written logographically without the risk of overburdening the system. In order to solve the problem, the accountants resorted to writing an individual's names phonetically."[35] This system of combining images develops the cuneiform syllabaries (one sign = one syllable). The creative process of inventing language may very well have been motivated by an accounting problem. What we see in this early example of iconographic language is a transformation of a domain of knowledge. Isolated symbols are synthesized into a new domain (literacy).

The Myth about Creation: Creativity and Reason

The need to trace the history of creativity comes largely from Heidegger's mandate to find and remove, that which is *decisive* in the thinking of creativity. Heidegger considers Lucius Annaeus Seneca,[36] who lived from 4BC to 65AD and defines the early nature of creativity:

> Among the four existent Natures (trees, beasts, man and God) , the later two, which alone are endowed with reason, are distinguished in that God

34 Dreyer, Gunter and Phillip von Zabern. Das Pradynastische Konigsgrab U-j Und Seine Fru Schriftszeugnisse. Mainz, Germany. 1988. Interview. http://whyfiles.org/079writing/2.html

35 Schmandt-Besserat, Denise. When Writing Came About. Austin: University of Texas Press. 1996. In Earliest Egyptian Glyphs, by Michael Larkin. Archaeology.org http://www.archaeology.org/9903/newsbriefs/egypt.html p. 1

36 Seneca's renown quote, "It is quality rather than quantity that matters" (Epistles) also speaks to Heidegger's distinction of 'care'.

> is immortal while man is mortal. Now when it comes to these, the good of the one, namely God, is fulfilled by his Nature; but that of the other, man, is fulfilled by care (Cura).[37]

God is fulfilled in himself and man is fulfilled in his ability to act on his ”care.” Fulfillment, or *perficit* in Latin, also means to *cause*, *carry out*, *achieve* and *finish*, or create. Heidegger qualifies this *care* as having two dispositions; carefulness (devotion) and anxious exertion. Cura also has as its definition an *object of love* and as such becomes an icon or curio. In this way we could conceive that creativity describes more of a process of carefulness or anxiety in bringing to an achieved finish an object of love or hate. It is this disposition to carefulness that makes us think of the skills of the builders of the great pyramids or paintings of the renaissance. We may be mindful of the anxiety and destruction of fascism, terrorism, conventionalization and spin that produces a veil of ignorance.

Heidegger translates “care” as man’s perfection in being free for his own possibilities (projection) through “care” and at the same time primordial care determines “what is basically specific in this entity, according to which it has been surrendered to the world of its concern (throwness).”[38] We will then take as a disposition of our ability to create our freedom to choose and act on our possibilities. At the same time, this *anxious* disposition of care that inhibits and disrupts our ability to act on our possibilities may also become the source for creativity that challenges what has been surrendered. Dada, Surrealism, satire and Solidarity have generated art out of an anxiety of what has been surrendered to a decisive power.

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37 “unis bonum natura perficit, dei scilicet, alterius cura, hominis.” Heidegger, Martin. Being and Time. New York: Harper & Row, Publisher, 1962. H-199

38 Heidegger, Martin. Being and Time. New York: Harper & Row, Publisher, 1962. H-199

Cura's Creative Orientation

History reveals another early example of creativity that displays a disposition of *care*. Heidegger calls attention to an ancient fable about creativity that reveals a well-grounded construction of ontology,[39] that interprets *self* as being immersed in "*care."* [40]

> Once when '**Care'** was crossing a river, she saw some **clay**; she thoughtfully took up a piece and began to shape it. While she was **meditating** on what she had made, Jupiter came by. 'Care' asked him to give it spirit, and this he gladly granted. But when she wanted her name to be bestowed upon it, he forbade this and demanded that it be given his name instead. While 'Care' and Jupiter were disputing, Earth arose and desired that her own name be conferred upon the creature, since she had furnished it with part of her body. They asked Saturn[41] to be their **arbitrator** and he made the following decision, which seemed a just one: 'Since you Jupiter, have given its spirit, you shall receive that spirit at death; and since you earth, have given its body, you shall receive its body. But since 'Care' shaped this creature, she shall possess it as long as it lives. And because there is now a dispute among you as to its name, let it be called 'homo', for it is made out of humus (earth).'[42]

What emerges in this early fable is a glimpse of creativity in action: the task of crossing the river (a problem or unit of activity) causes one to *notice* possibilities that move toward an outcome, in this case, crossing back onto dry land (clay). "Care," in *thoughtfulness*, picks up the "medium" (clay). How do materials-at-hand play an important part in creative shaping? It is possible to

39 Ontology as the nature of being.

40 Ibid. H-197

41 Saturn is associated to Cronos a mythical titan who overthrew his father, Uranus to become the ruler of the universe.

42 Ibid. H-198

question the relationship between thoughtfulness and noticing or thinking and perceiving. What role does the choice of material have in shaping the object of creation?

Another aspect of the creative process suggests that Care *meditates* and *reflects* on the *object of creatio*n and finds the need to collaborate with Jupiter. The creative process that Care engages in is not complete at the finish of the *object of creation***:** Jupiter is called upon to instill spirit (love, style). The object of creation is not an end in itself but an exposition that mediates a reflective experience. And lastly, we find that creativity is only fulfilled after an arbitration by Saturn (Cronos) who is a judge, authority and a philosopher, and whom we could also call the curator, critic or someone who understands the social implications of the act of creation.

This fable presents a variety of categories, qualities, methods, contexts, reasoning and dispositions that define a historical orientation of *creativity*, which will be considered as a context for a philosophical definition of creativity. Also, Cura's creative orientation crosses a variety of knowledge domains. This fable reveals the kind of *decisive* thinking that Heidegger warns us to look out for: social structures with hierarchies that limit perception. Additionally, a thoughtfulness becomes an urge[43] to create. There is a choice[44] and a selection of clay or medium-at-hand.[45] The artist & viewer share in an aesthetic experience of reflective consideration of the output of creativity which has a communicative nature. Another aspect of the creative process implies there is a judgment or *critique* by an *intermediator who* understands the social and *historical* relevance of the object-of-creativity. Also, there are *methods* used in the creativity process: "Care" shapes clay. Where is the space or place of creativity? It is where you least expect it: in the sublime.

43 R.G. Collingwood, The Principle of Art, defines the motivation of the artist to be a 'creative urge'.

44 The Latin word creō is link to the word create but also can be interpreted as the "action of choice".

45 John Dewey, "Art as Experience", Chapter 9; defines the choice in selecting artistic medium as a clinical artistic choice.

In Heidegger's essay, *The Origin of the Work of Art*, he characterizes creation as the following: "to create is to let something emerge as a thing that has been brought forth. The work's becoming a work is a way in which truth becomes and happens." [46] In this way creativity reveals the hidden truth in a mode of knowing that the Greeks called *alētheia*, (the revealing of beings). As creativity opens a space for a truth event, identity awakens to its becoming. For Heidegger "art is the creative preserving of the truth in the work. Art then is the becoming and happening of truth."[47] Heidegger's essay maintains an adherence to logic as he deconstructs creativity, medium, equipment, subject matter, ideas, being and truth and he concludes that art is a poetic mode of knowing that opens a place "in whose openness everything is other than usual."[48] Although Heidegger maintains a logo centric bias towards poetry when he speaks of the arts, he does convincingly reveal a philosophy of knowledge inherent in art. What is surprising about Heidegger's analysis of Vincent van Gogh's painting titled *Shoes* is that he only analyzes the work of art through an empirical narrative rather than addressing the *pure intuition* of the form, which would address the unusual colors and space that van Gogh employs to create his transformed shoes. It is the way that van Gogh paints that sets thinking into action and reveals the identity of the artist and the shoes simultaneously. Van Gogh signifies his point of view about the world in which he lives through the shoes. Van Gogh is free from the pure representation of shoes by using them as a vehicle shaped by paint to form his own language, just like "Care."

46 Heidegger, Martin. "The Origin of the Work of Art." 1960. from Basic Writings. New York: Harper and Rowe, 1977. p. 180

47 Ibid. p. 183

48 Ibid. p. 184

Creativity and Imagination: Kant's Analytic and Synthetic Judgment

In the 18th century Immanuel Kant, in his book Critique of Pure Reason, addresses any aspects of the contemporary world's understanding of how knowledge is acquired and how art is discussed. Kant's theories have an effect on our world in a variety of ways that influence the way we think about freedom, opportunity, learning, judgment and identity. Kant disagrees with Plato's notion to treat *ideas* as *substance* or *reality* and writes about the impractibility of such an existence. Kant calls for a "milder interpretation" of Plato's ideas on knowledge. He suggests *intuition* and *imagination* play an important role in how we acquire knowledge.[49]

For Kant, the way learning occurs first involves an action of the faculty of the imagination which analyzes two different individual "representations," and in an act of "synthesis" constructs a new understanding of an object's reality. Children learn to analyze the different letters of the alphabet and then synthesize the letters to construct words that represent meaning. This may also be why children can learn languages best while their imagination is open. The *imagination* is responsible for forming concepts to be considered for knowledge.

Kant does however agree with Plato that knowledge is the ultimate goal: how you get there is another matter. Kant suggests a "constitution allowing the greatest possible human freedom in accordance with laws by which the freedom of each is made to be consistent with that of all others."[50] For Kant it is the restrictions imposed by these laws or rules that assure freedom, like a social contract. "For the issue depends on freedom; and it is in the power of freedom to pass beyond any and every specified limit."[51] This ability to go beyond the

49 Immanuel Kant in his book Critique of Pure Reason, p. 372-73

50 Ibid. p. 373

51 Ibid. p. 373

specified limit is precisely the measure of creativity's freedom in the arts and sciences. Maxine Greene calls this "thinking outside of the box."[52]

Kant's placement of imagination as having the ability to lead us to understanding also pertains to the creative process of the arts; art is a creation of one's own action constructed by the imagination. As such, aesthetic reflection in the arts offers a twofold method for determining understanding: aesthetic reflection of the beautiful and the sublime.[53] By introducing the notion of imagination as a faculty of knowledge, Kant acknowledges a relational development of knowledge that moves through the whole of self. Although reason confers the most thorough judgment on an idea, it is imagination that supplies reason with the substance and material for reason to consider. Imagination was considered by Plato to be impure because the illusion of the senses is free to play with possibilities in an open or heuristic way. However, even the truth of ideas begins with intuition which leads the imagination to construct and synthesize concepts through reason. This means *reason* is restricted by a self-critique that has at its end a construction of knowledge. The law (critique) that Kant describes is one that "preserves" freedom for everyone. Kant demands freedom that is checked by a law that preserves freedom. This creation of knowledge does not become an end in itself, but it must reflect back into life in a practical way. What good is the truth in philosophy if, after discovering knowledge, it does not have an influence on the life reflected.

Play: Creativity in the Arts

Another condition of creativity that leads us to a more contemporary definition is that of *play*. The ontology of the work of art for Hans-Georg Gadamer

52 Greene, Maxine. Variations on a Blue Guitar. New York: Teachers College Press. 2001.

53 Ibid. B-102-04

starts with the notion that the concept of play has a major role in aesthetics. Gadamer states in Truth and Method:

> …in connection with the experience of art, we speak of play, this refers neither to the attitude nor even to the state of mind of the creator or of those enjoying the work of art, nor to the freedom of the subjectivity expressed in play, but to the mode of being of the work of art itself.[54]

Gadamer continues by saying that play has a relationship to what is serious. "Play fulfills its purpose only if the player loses himself in play. It is not that relation to seriousness which directs us away from play, but only seriousness in playing makes the play wholly play."[55] Gadamer looks at play etymologically linked to *speil* (German, dance) and considers the compossible uses: the play of light, the play of waves, and even the play of words. He concludes that the essential characteristics of its origins involve the "to and fro" nature of movement that implies a choreographic spacing. This backwards and forwards movement is his example of the nature of play in games. It is within this medial sense of play that Gadamer connects the work of art. Friedrich Schlegel concurs that even in "the sacred games of art are only remote imitations of the infinite play of the world, [within] the eternal self-creating work of art." [56] In this way the dancer does not create the work of art, but the dancing creates the art.

Howard Gardner,[57] in Creating Minds, suggests that the artwork "plays" with the world as we know it. Gardner defines creativity in an excerpt from Mihaly Csikszentmihalyi, as having three nodes that are important: (1) the individual person or talent. (2) The domain or discipline in which that individual is working and (3) the surrounding field that renders judgment about the quality of

54 Hans-Georg Gadamer, Truth and Method, p. 31

55 Ibid. p. 322

56 Freidrich Schlegel, Gesprach uber die Poseie (Freidrich Schlegels Judendschriften, ed J. Minor, 1882, II, p 364)

57 Howard Gardner is a Professor of Education with a background in Psychology who has advanced the concept of multiple intelligences.

individuals and products.[58] Gardner continues saying, ”in Csikszentmihaly’s persuasive account, creativity does not inhere in any single node, nor, indeed, in any pair of nodes. Rather, creativity is best viewed as a dialectical or interactive process, in which all three of these elements participate.”[59] For example, we could say a filmmaker like Peter Greenaway has a talent for directing and creating films that is recognized by critics, artists, philosophers, peers, and a public.

The nature of creativity has long (either "long" or "throughout time" not both) been a source of interest for artists, teachers, scientists and philosophers throughout time. Howard Gardner who has long been an advocate of aesthetic education defines another example of creativity though his own background in biology, sociology and epistemology. Gardener’s definition of a creative person is one who solves problems, makes products or defines questions in a domain that is thought of in an innovative way.[60] Gardener cites these three features of creativity as more commonly accepted definitions of creativity, but he also suggests four other more revealing features that are cause for scrutiny. First, creativity **may** exist in only one domain and not across all learning domains. Someone might be creative in dance and not so creative in math or language and still be considered a creative person. This has vast implications on how students should be taught but at the same time is a limiting view that dismisses the possibility that creativity in one modality might influence someone one to be more creative in a second modality. An example is using the arts to promote literacy. Secondly, a creative person **must** display regularity in being creative. Creating a single work of art is not enough. In Gardner’s definition, a creative person *wishes* to be creative and as such organizes his or her life in such a way as to encourage further creativity. Gardner’s second feature directly relates to the notion that a creative space can be a constructed environment that favors

58 Howrard Gardner, Creating Minds, p. 38

59 Ibid. p. 38

60 Ibid. p. 35-36

innovative exploration and creativity. In a perfect situation this seems true; an artist sets up a studio that is conducive to making art. However, there is an idealism in Gardner's stance that dismisses outsider art, *street art*, *prison art* or art of the sublime that happens anywhere, and sometimes because the conditions for making art are oppressive. Art and creativity can happen despite less than ideal conditions. Thirdly, Gardner adds that creativity involves the *making* of new products or the *discovery* of unknown issues or ideas for fresh exploration. While the making of new products certainly implies a creative process and a critical thinking model where something new is constructed from or synthesized from experience. The discovery of the unknown that Gardner adds is just as likely to be accidental and not creative. Lastly, Gardner suggests that "nothing is, or is not, creative in itself."[61] For Gardner creativity is inherently a social or cultural judgment that clarifies art production. The most one can say about an entity before it has been evaluated by the community is that it (or he or she) is "potentially creative." It is here where Gardner's definition of creativity fails in important principles that should be further considered. First, it is absurd to suggest that creativity needs an authority for conferral. Aesthetic reflection of the beautiful, in and of itself, is limited by the judgment of taste which Gardner suggests. History has proven all too often that the critics and audiences have failed to understand the significance of creative works that fall outside the bounds of traditional taste. This nearsighted condition is precisely the reason why the aesthetic reflection of the sublime is critical in defining an aesthetic means of assessing that which falls outside the boundaries of what should be considered in the creative process. Creativity is realized in the process and reasoning of the creator. Yes, creativity finds fulfillment as a social phenomenon, but in no way is creativity dependant on anyone but the creator. George Dickie, Arthur Danto [62] and Richard Wolheim also express this notion about creativity. We can then say

61 Ibid. p. 35-36

62 Arthur Danto, "The Artworld," Journal of Philosophy, 61 (1994), 571-584; Richard Wollheim, Art and Its Objects (New York 1968), esp. sec46, and "Minimal Art," Arts Magazine, 39 (1965), 26-32; George Dickie, The Possibility of Art, Aesthetics, A Critical Anthology, St Martin's

that *creativity* is much more akin to a process that involves *action* and *reflection of the beautiful and sublime*.

So what Howard Gardner offers to this thesis on creativity is the view (or belief or theory) that knowledge occurs across learning modalities. One of the methods of inquiry of this thesis is the employment of an interdisciplinary approach to investigation. History reveals a mosaic of cultural artifacts and evidence that reveal and frame beliefs about creativity. The history of creativity can be seen across disciplines (see timeline) through discoveries, inventions, ideas and works of art. This investigation will continue into areas of creativity in other disciplines that might reveal different aspects of creativity not mentioned above.

Creativity in Science and Technology: Invention

The *camera obscura* is the first example of an image producing phenomena. Camera obscura literally means “darkened vault” and evokes a connection to Plato’s cave. Artists from the renaissance used this technique to sketch complicated perspectives of cityscapes and landscape. All the windows of a room would be tightly sealed so as to make the room totally dark. A very small hole would be made in the masked window, acting as an aperture. This hole would allow light from outside to produce an image on an opposite wall of what was outside the hole, upside down, in reverse order and in color. However, there was no way of capturing the image except by tracing the image with chalk onto a canvas, paper or board. The *camera obscur*a was a *discovery* of something that already existed as a phenomenon. The camera is not an invention or creation - it is a discovery. It is conceivable that this phenomenon could occur accidentally from a hole in the ceiling of a cave projecting a photographic image on the floor of the cave. We can also say that the artists who controlled the phenomenon of the camera obscura created an *instrument* for sketching images or a creative process. Eventually a smaller portable box was used with an actual lens to

enlarge and focus the projected image. However the invention of the camera as an instrument could not have existed without the creation of film by Nicéphore Niépce.

The first photograph[63] was taken in 1827 by the French physicist Joseph-Nicéphore Niépce who used resinous bitumen and oil of lavender to permanently capture a *camera obscura* image on a glass plate. Niépce created the art form of *photography* by creating something that never existed before: the *medium* to receive an image. In this situation creativity is the result of a problem that needed to be solved. This problem took understanding across a network of disciplines, where an understanding of physics, chemistry and optics were needed to discover a *medium* to record an image. What is significant about Niépce is his understanding as a physicist of substance and the properties of elements that are affected by light. Playing with the medium of science and physics Niépce discovers a way to receive and capture light on photographic plates. But more importantly he creates the space for a new art form, photography.

What is interesting about the modern day camera is the number of inventions that can be connected to an endless series of other inventions that are embedded in the hundreds of other components that make up the camera and photography. In this context creativity is often the result of a new invention that comes about by the collaboration[64] of individuals across a network of disciplines. This aspect of creative inventiveness across disciplines is a good example of interdisciplinarity. After thousands of years of painting, drawing and sculpture, the camera changed the way people thought about image making as an art form.

63 The first captured image from a camera may be attributed to Thomas Wedgewood, son the famous potter used silver halide and silver nitrate to capture a silhouette on clay, most likely for one of his fathers vases.

64 Collaboration can describe a dialectic through two different meantings, one definition means to “work together” and the other means to cooperate with the enemy forces occupying own’s country.

The Camera: Scientific and Creative Process

The instruments of learning can be rethought through a *topistics*[65] understanding that restores the decayed intelligence between medium and creativity. The history of creativity in modern science is often made up of inventors who pushed experimentation into new territories of thinking about the world. As technologies developed through the late 1800s, new discoveries and inventions gave birth to the Industrial Revolution. Advances in one field of study would effect another field of study through a process of building on the success of earlier inventions. Some inventors like Thomas Edison, understood a variety of disciplines. He not only understood the physical properties of materials and media, but also had the ability to conceptualize his inventions in relationship to a market and economy. The kind of thinking that is necessary for hypermedia to carry knowledge is embodied in the range of possibilities that Edison considers in the transformation of *material* into *instruments* that are turned into *methods* which become a *means of production* that run economies.

Thomas Edison's understanding of multiple disciplines (electricity, light, sound, culture, and economics) gave Edison an ability to see, think and create in new imaginative ways that took him beyond a single frame of reference. The photograph restructures and transforms our way of thinking about art, science, astronomy, sociology, chemistry and space/time. By understanding across disciplines Edison made new associations that link a variety of practices, thereby expanding the concept of interdisciplinarity beyond simply joining two or more knowledge disciplines. His invention of the camera opens new ways of considering visual communication. A new poetic language emerges with film and subsequently with digital hypermedia, while science uses photographic technologies to reveal objects beyond the human visual range of seeing. With the event of photography, media becomes a powerful social record that defines a

65 E. V. Walter calls topistics an "expressive space" in Placeways. P. 5-6

new space for communication.

Another Side of Creativity: Antithesis

Up till now we have addressed ideas about creativity that describe Western culture. A critical analysis of creativity needs to also consider other cultures. Creation myths in many non-Western cultures express a range of possibilities that often reveal creativity as a divergent process that goes beyond the conventional notions of good and evil. Viewed locally, a creation myth is often taken as truth that describes the order of a non-manifest world underlying everyday experience (remember Plato's intelligible world) which requires ~~a~~ conformity to an ideal or belief. Other myths introduce contrary beliefs evidenced by a god who creates mistakes (Slavic), a god who creates and destroys (Hindu), a god who is half man and half woman (India), a god who creates ignorance' (India),[66] gods who are transformed animals (Hindu), a god who is a woman (Hopi), creation myths and twins (Nigeria), a god who creates by vomiting the sun, moon and stars (Boshongo) and oddly enough, a god who advocates freedom. Other creation myths involve absurdity, mischievousness, treachery, murder, dismemberment and humor.

Many of these creation myths describe beliefs that are contradictory to Western beliefs. Many acknowledge the struggles, the ugly, the bizarre and the seemingly objectionable (abject) aspects of life, as necessary and ~~a~~ vital function of the creative act. Many Eastern cultures consider-dynamic forces rather than dual forces: the I-Ching, the concept of yin/yang, mandalas and feng-shui address issues of balance and harmony. This viewpoint of creativity introduces a dialectic that considers these forces as a synthesis rather than in opposition. Schirmacher describes dialectics as "an attempt to deal in a positive manner with

66 Streiker, Julius. India Creation Myths. Winter Steel. 2005. http://www.wintersteel.com/files/folklore/india_creation_myths.htm

the contradictions and struggle which are typical of real life." The dialectics[67] process of investigation "understands n*egation* as the force of development," says Schirmacher, "thesis and anti-thesis address the necessary contradiction (negation) in the same phenomenon and life situation. Synthesis is a solution to this contradiction, no longer situated within the context from whence it derived." This synthesis integrates two opposing representations into a new object that redefines the object's reality. Creation myths become a cultural source for understanding a dialectic on creativity and a source of diversity.

John Bierhorst states in his book The Mythology of North *America*, "each continent has its own mythological imprint that reflects the desires and fears of distinct peoples, granting them trusteeship of the land with the consent of unseen powers."[68] What creation myths teach us is the range of the imagination to embrace the possibility of the unknown (sublime). Our imagination finds a relationship of understanding from the total experience of possibilities. Creativity leaves a historical cultural "imprint" on each part of the land that is peopled. Bierhorst adds that different people may come and go but the original imprint of the creative myth remains. It's no surprise that creation myths have a direct relation to the natural forces of a place: Vulcan and Pele are gods associated with volcanoes.

Creativity plays with everyone. The trickster is just as creative as the genius. Creativity may be better defined as a great contradiction. When touted by educators as an imperative to a community of learners, the arts may really not be the cozy place that promotes congruity. If creativity is free we would have to expect its opposite: the trickster. It is only when we have synthesized this opposition that a new representation is achieved. In this way the arts create and destroy. The co-existence of these generative and destructive forces can be understood as a method where creation and destruction are joined in a new

67 From notes on "Introduction to Media Philosophy", Wolfgang Schirmacher.

68 John Bierhorst, The Mythology of North America, p. 1

synthesis. The dialectical argument transforms contradiction into a pure empirical thought.

Abject Creativity

While the Renaissance in art and literature is recognized to have been an era of beauty and poetics, beauty's creative counterpart, the grotesque, was equally in vogue. Imagination loves to play. Leonardo da Vinci had a lifelong preoccupation for painting both the beautiful and the grotesque. Carmen C. Bambach writes in her essay Leonardo da Vinci on Beauty and Ugliness, "In his role as a theorist of painting, da Vinci repeatedly stated that the two most formidable challenges facing the good painter were the portrayal of man and the intentions of the mind." [69] This is deduced from a direct quote from da Vinci that was written underneath a "sketch of an old hag, …a beautiful thing that is mortal passes and does not last … beauty (bellazza) and ugliness (bruttezza) appear each more powerful when seen in contrast, one with the other."[70] Clearly da Vinci understood the dialectic in art and found power in the synthesis of two oppositional realities. He also was concerned with addressing the relationship between the physical representation and his desire to communicate through a painting not fixed on an ideal but more concerned with a deeper understanding of life's nuances.

Dadaism, Surrealism and Futurism introduced the arts to contradiction, absurdity, distortion and the sublime of an *art of the dialectic* to an extreme. "Dada was an expression of frustration and anger," writes Dawn Ades, in her book Dada and Surrealism[71]. She continues," Dada turned in two directions, on the one hand to a nihilistic and violent attack on art (abject) and on the other

69 Carmen C. Bambach, Leonardo da Vinci on Beauty and Ugliness, p. 38

70 Ibid.

71 Dawn Ades, Dada and Surrealism. p. 4

hand, to games, masks, buffoonery (sublime)."[72] The artists of Dada, angered by the atrocities of World War I, applauded the rebuff of logic, and turned to satire (John Heartfield, George Grosz and Otto Dix). Their contempt was for the hypocrisy of the art world itself (Marcel Duchamp, Man Ray and William de Kooning) and its fixation on the bizarre (Max Ernst, Salvador Dali and René Magritte). The art of this turn-of-the-century movement (Dada) imposed a critique on the values that produced the great horrors of modern civilization and World War I, through an indictment on culture. Dada forced a new dialectic on aesthetic value. In a world capable of such violent destruction beauty can no longer be an end or goal within the arts. A conceptual framework now supercedes external appearance.

If we are to succeed in answering the earlier question of the *place of creativity* and logic in the process of learning it becomes clear that we cannot proceed by forcing an oppositional relationship between Margaret Spelling or Ramon Cortines, but must try to synthesize a new understanding that considers creativity and logic as a dynamic interplay of life that transcends appearance.

The Re-Created Body as Art

If we are to accept that learning and understanding in education should produce contributing citizens we should consider what it means to construct the identity of an individual who is free to contribute. But we must first consider the deeper question about what it means to create a citizen. Again, creation myths provide a rich starting point for an understanding of creativity as being at the core of all cultures. We can also see that some cultures regard the identity of the

72 Ibid. p. 4

individual as being in a *state of constant recreation*. Many creation myths speak not only of recreation[73] of individuals, but recreation of the world as well.

Robert Brain in his book The Decorated Body considers the anthropological significance of body decoration/recreation through mutilation, scarification, tattooing and various other alterations. Brain describes Australian aboriginal initiation rites that involve circumcision and subincision of young men. Brain elaborates on the ritual: "this mutilation of the body symbolizes the rebirth of the initiate into a new world of adult men."[74] "As boys are changed into men and the girls into women, they become permanently and painfully aware of their new role."[75] These ceremonies of recreation are not simply acts of fashion but acts that "imprint a new status on the individual and at the same time serve to introduce him [or her] by degrees into the mysteries of the social organization of a group."[76] Brain concludes by saying these recreations of the body serve as a kind of language or code that can justly be called a fine art. The cultural imprint on people from around the world reveals acts of human recreation in various ways. Foot binding, neck stretching and head deformation represent some historical alterations, while contemporary recreations of physical identity often happen on the operating table with plastic surgery, breast implants, facial augmentation and gender alterations (transsexuals).

There are a number of creation myths from around the world that introduce unexpected transformations. A creation myth from India describes a god who splits in two, to form man and woman. In the Dhammai creation myth the lord of the universe created Brahma who transformed his body into two parts; one half was male and the other half was female. Brahma creates a male in his female half named Viraj. In this way a god can generate new forms by recreating

73 As reality has it, the earth has been created and destroyed many times. Geologist, Luiz Alvarez has revealed one of the earths many demises happened as a result of meteor impacts that wiped out much of life on the planet.

74 Brain, Robert. The Decorated Body. New York: Harper & Rowe, Publishing. 1979. p. 182

75 Ibid. p. 183

76 Ibid. p. 184

himself into a transgender (or a “trans-genre” says Sandy Stone in her essay *The Empire Strikes Back: A Posttransexual Manifesto*. Stone suggests using the term “genre” (instead of gender) to describe a transsexual, or just another kind of sexuality. She suggests, “constituting transsexuals not as a class or problematic ‘third gender,’ but rather as a *genre*—a set of embodied texts whose potential for productive disruption of structured sexualities and spectra of desire has yet to be explored.”[77] What Stone seems to suggest is a synthesis of possibility in sexuality that is directly suggested in the creation myth as just another possibility of creation. In other representations of Vishnu, the god has eight arms; perhaps possibility nurtures synthesis.

In another interpretation of this creation myth Kalkinath suggests that Brahma, “having discharged *Ardhanarishwara* from his brow, Brahma performed a similar operation on himself, dividing himself into a progenitive couple, Manu [man] and Satrupa [woman], whose issue represented the various conditions, qualities and activities of the total human condition.”[78] Kalkinath seems to agree with Sandy Stone’s, “spectra of desire,” as he links lust and desire to the god Kama. “In the creation hymn of the Tg Veda, Kama (desire) is the first seed of mind from which came the entire Creation. It is the arrows of Kama which in the primordial beginning, inspire Brahma with the passion and lust for creation.”[79] Kama is the primal urge of life that becomes the embodied form of *Ardhanarishwara*.

It is not the intent of this thesis to debate or argue the truth or validity of creation myths but rather to consider them as indicators of the multiple ways of constructing an understanding of creativity (construction) and, its antithesis, destruction (de-construction), as a stereo synthesis where the positive and negative interplay provide the vital energy of life in phusis. Creativity begins long

77 Sandy Stone, The Empire Strikes back: A Postransexual Manifesto

78 Kalkinath, Ardhanarishwara – the god who is half woman. p. 2
http://www.philhine.org.uk/writings/tt_arhanarishvara.html

79 Ibid. p. 2

before knowledge emerges. Creativity stimulates the imagination with choices in relationships between the differences, similarities, diversity and complexity in our extended world and constructs a new synthesized idea or concept.

What remains are the present creation stories. This creative present is too new to be called a myth and it's too real to be called a dream. The desire to create a cloned human may be the ultimate act of creation, but perhaps the greatest conflict of such a creation would be the implications of what name to give the creator of such a human clone. The ancient myths would call such a creator a god, but what scientist would assume such a name? Could it be that all humanity has been in an act of self-recreation for eons? Is it not reason and imagination that synthesize unexpected connections that change our way of being?

We construct our own physical and mental being in every creative act. The moment we create we interrupt the instinctual automatic cycle of life. Creative thinking breaks out of the conventional understanding of nature as fixed, and opens the possibility of finding and creating one's own self-awareness. We create and destroy our bodies in a lifespan of exposure to daily circumstances that range from eating and breathing to hearing**,** drinking and touching the substances of the world we live in. Reflective thinking allows creativity to sense our place in the world as a sphere of life *media*, that is, the world around us is inseparable.

Politics and Creative Learning

When Ramon Cortines suggests we teach children to become contributing citizens, he evidences a desire to initiate learners into a *social order* (that of becoming *a citizen* of a democracy in the United States of America). From a Platonic standpoint, a *citizen* is a free human being living in a democracy where

each citizen is guaranteed equality, liberty and justice. Rousseau later considered living in such a democracy a *social contract* that requires one to surrenders some freedoms for the guarantee of a good government.[80] The mandates that Margaret Spelling advocates in the No Child Left Behind law go beyond a *social contract*, by restricting freedom of citizens to choose their own method for learning. Margaret Spelling articulates a demand by parents to hold teachers accountable for the training of their children. Teachers are restricted by the NCLB law to improve reading and math scores by narrowing the curriculum to the logic of the test. Arts and creative exploration are largely ignored in this curriculum. Ignoring both of these social objectives reflects a societal condition in which parents, teachers, administrators and politicians battle over *the purpose of existence*. In sending their children to school what rights do parents forfeit so their children get a good education? What should be the objective of learning and how broad should be the perspectives that teachers present? (remember the story of Siddhartha) Education, as a social contract, would have to state what "good understanding" really means. Who would doubt that reading and math capabilities are not important or that sociability is not a desired disposition. The freedom to agree and disagree indicates a healthy relationship in a democracy. The acquisition of knowledge through a national education system must be defined by an objective that represents a world-of-people and a world-of-beliefs that are capable of synthesizing multiple possibilities of existence. What should education provide its becoming-citizens? If teachers are responsible for student learning, then there can be no rational answer that does not consider the kind of world that young learners will be growing into: the world of a future-present that occurs within the creative moment projecting new possibilities for life to act on. As citizens what rights and freedoms do children have to choose and create their own world that goes beyond local beliefs and myths and understands world learning?

80 Flew, Antony, A Dictionary of Philosophy. New York: St. Martin's Press, 1984.

Jean-Luc Nancy in his book The Sense of the World presents yet another possibility, a non-political structure. Nancy questions what it means to be an individual within a group or community: “This sort of *configuration of space* would not be the equivalent of a political configuration (fiction, myth). It would trace the form of being-toward in being-together without identifying the traits of the towards-*what* or towards-*when*, without identifying or verifying the ‘to what end’ of the sense of being-in-common – or else, by identifying these traits as those of *each one*: a different 'totality,' a different unicity of truth.“[81] For Nancy the only hope is in accepting the singularity of a self that remains one's own, even within the group.[82] Nancy suggests a certain anonymity of "being in common" rather than the identification of sovereignty: in a sense, we are alone together. Because the group is comprised of individuals with indeterminate ties, this uncertainty cannot be a totality. The crisis for democracy, says Nancy is a “crisis of sense.” For Nancy, being-in-common is a transitive state rather than a static state. In a way we are in flux with each other rather than drones in a collective, such as the single minded behavior of bees in a hive.

If, as Nancy suggests, our sense of self is *all that remains our own*, then in considering the role of education we must also consider the balance between self and community. Teaching children to become good citizens presents then a mythic wish. Nancy seems to suggest the impossibility of citizenship being the nexus of community but instead of community more as “the place of being in common.”[83] What we confront in the being with others is the contradiction between one and the other. The creative place of the arts in the classroom should then be a place of one's own destiny. The importance of the arts in pre-school education (two through four years of age) lies in a young learner’s freedom to create a self-generated visual language that is his or her own.

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81 Nancy, Jean-Luc. The Sense of The World. Translated by Jeffrey S. Librett. Minneapolis: University of Minnesota Press, 1997. p. 2

82 Jean-Luc Nancy, Being Singular Plural. Stanford, CA: Stanford University Press, 2000.

83 Nancy, Jean-Luc. The Sense of The World. Translated by Jeffrey S. Librett. Minneapolis: University of Minnesota Press, 1997 p. 88

Through the arts young children begin to represent their world symbolically, which is instrumental in developing the thinking skills required for synthesis and language acquisition. In the world of early education (five through eight years old) children suddenly find themselves in the world of a social contract that sacrifices certain freedoms in the name of a good education. Community as a bound nexus or as a shared creative space presents an argument. On one side of this argument we find young children at play in their own world, representing the most tangible example of freedom and unfettered by adult intervention. At the other side of the argument we find children bound to the rigidity of a determined social outcome. The balance between self and society can be considered in our early upbringing as a battle between work and play. There is a need to distinguish a self that is independent of the group but is at the same time part of the group. How best to create an atmosphere that fosters the development of such a balance must be a part of the consideration for any educational system.

The kind of democratic citizen that Plato envisioned in The Republic was a citizen whose voice and opinion was expected to be heard; citizens were expected to debate their ideas with reason. In a democracy we should expect to find citizens who are trained from the beginning to voice their own ideas and hold the laws and social contracts accountable to protect the freedoms of all people. Education, as a *social contract,* should protect the freedom of the individual to define and pursue his or her own potential. In the world of education, language and math are measured by the logic of the test that has a predetermined answer that conforms to an idealized standard. Art education measures success through a portfolio that reveals the change and growth in the development of life skills and dispositions that influence creativity, imagination, thinking, expression, reflection, presence and ability to dream.

Knowledge of the world must be taken as a particular, that when shaken by its opposite reveals a momentary glimpse of a creative self. Creativity synthesized describes the enduring possibility that exists between construction

and destruction.[84] Imagination lets us put the parts together and take them apart in an endless process, repeating but always becoming anew. In a very real sense, we must create our own selves every day.

Defining a History of Creativity

Where is the final resting place of creativity in a 21st century learning environment? What is to be created by a citizen who contributes to a post technological age? What kind of life are teachers preparing their students for? Schirmacher, in his article *Homo Generator in Artificial Life* , traces a lineage of philosophers[85] that draw out and map a thinking process about creativity which moves from the age of technology to the post-technological horizon through a "leap" into "artificial life."[86] Schirmacher describes his understanding of artificiality "in this 'founded' sense [through Edmud Husserl who] is charged with determining the constitution of the human life-world, whose nature has always been and is completely engendered by us."[87] Artificiality describes everything we have created because all human expression, be it physical or conceptual, is a transformation into media that defines our understanding and feelings about our world. Communication is a symbolic language and not a one-for-one equivalent of what is going on in our mind. The "leap into artificial life" is not just a whim but a life changing commitment to openness. It is Søren Kierkegaard who in the 1840's, at the end of the Age of Reason, first proposes a "leap into faith" from reason into uncertainty. Reason had reached a limit for Kierkegaard who suggested an alternative way: "An objective uncertainty, held fast through appropriation with the most passionate inwardness, is truth, the highest truth

84 Con-struction [<L constuctus, pp. of constuere < com-, together + struere, to pile up, build]

85 "Since the founding of the modern age by Descartes, Spinoza, and Leibnitz, this prospect has inspired daring projects in the most diverse minds. I mention here only Hegel, Schopenhauer, Kirkegard, Nietzsche, Bataille, Heidegger, Sartre, Arendt, Foucault, Lacan, Levinas, and Deleuze". Wolfgang Scirmacher, Homo Generator in Artificial Life (1)

86 Wolfgang Schirmacher, Homo Generator in Artificial Life. p. 1

87 Ibid.

there is for an existing person."[88] Logic alone does not profess a truth without a connected inner sense. How we come to knowledge matters. For Schirmacher the "leap" from the age of reason into the post-technology age describes a leap into *artificiality* "whose understanding today is limited to the sense of the fabrication and imitation."[89] Schirmacher describes the term **"**artificial perception**"** as a result of going beyond the traditional intuitive and rational ways of orienting concepts through a transformation and suggests a "new art of perception" that can address a contemporary need to find fulfillment in infinite and diverse perspectives.[90] The implication for education is that the achievement of knowledge as a goal suggests a method that calls upon multiple methods and approaches to learning. Teaching individuals to create themselves requires a student centered approach to learning (Eisner, Kindler, Colbert) that would explore multiple learning methods, interdisciplinary skills and assessment methods to identify student potential. Education should be considered as a creative act of the individual who chooses to present and participate in creating his or her own world. Our task is to create ourselves and by doing so we also create the world we live in. Schirmacher says, "This creation is by no means purely cerebral… neither is it limited to the realm of perception, but concerns the whole person and embraces embodiment and communal action as well."[91]

Schirmacher also makes reference to Søren Kierkegaard who, in his book Either/Or, speaks of the self who ethically chooses its self concretely: "The individual, then, becomes conscious as this specific individual with these capacities, these inclinations, these drives, these passions, influenced by this specific product of a specific environment… for he chooses himself as a product.

88 Kierkegaard, Soren. Either/Or. Part II. Princeton: Princeton University Press. 1987. in Continental Philosophy: An Anthology. Ed. William McNeill and Karen S. Feldman. Chicago: Blackwell, 1998. p. 66

89 Wolfgang Schirmacher, Homo Generator in Artificial Life. p. 1

90 Ibid. p. 4

91 Ibid. p. 4

And this choice is freedom's choice in such a way that in choosing himself as product he can just as well be said to produce himself." [92]

What seems to emerge out of this questioning process is that creativity itself is less action but more a process through an unknown space between reason and sense. The disposition of this process affects our action that shows itself as care (projection) and anxiety (throwness). While much is said about creativity as a thesis, little is said of creativity as an antithesis. The antithesis, as we see in the sublime artists of Dada, took on the disposition of satire, the bizarre, the pedestrian and destruction as a means of forming a new synthesis of the world. We do not act creatively but choose to enter the process and space of creativity. Creativity means being present. To create describes a process and presence of openness that allows for investigation and experimentation and makes discoveries of the world that are not in themselves creative acts, but lead to the possibility of creativity. What also emerges is a definition of creativity that suggests an interplay of choice making and acting on one's own world through a decision of one's own.

Creativity is motivated by an urge to generate and a desire to reflect on its actions. Creativity is conferred or acknowledged by an audience and as such is a public event. Creativity can be described as a disposition of play, discovery and inventiveness. Creativity requires a choice of the medium to hold our image… a thought, a word, a poem or a song. Creativity as a process is a natural pedagogy.

"The creation of something new is not accomplished by the intellect but by the play instinct acting from inner necessity. The creative mind plays with the objects it loves."

Carl Jung (1875-1961)

92 Kierkegaard, Soren. Either/Or. Part II. Princeton: Princeton University Press. 1987. in Continental Philosophy: An Anthology. Ed. William McNeill and Karen S. Feldman. Chicago: Blackwell, 1998. p. 66

2: Media: From Raw Material to Medium to Media to Virtual Reality

Medium

The way we communicate is first an act of choosing our own *medium of expression*, be it words, facial expression, body language, image making, dance, logic or thinking in virtual reality. Through a process that involves intuition and reason we form the substance that becomes knowledge. That we choose a specific modality to communicate through suggests our unique learning style, that is, one needs to communicate in numbers when filing a tax return. Competency in multiple learning modalities can open new pathways for learning.[93] Arts, science and humanities mark and record a history of communication in the world of medium/media. The cave paintings at Lascaux represent an ongoing exploration in choosing medium (paint) and techniques (painting skills) to visually represent a world. Some of the early bison paintings are actually painted on rock outcrops that resemble the animal's spatial forms. This is an early example of *media and communication* by artists who generated knowledge of their world through a *medium* that communicates.

HYPERLINK What is medium? The idea here is not to deconstruct the term medium. Lacan, Derrida, have taught us well the limits of language that has been squeezed through the analytic press. It is necessary instead, to trace the forms that are evoked by the term's network of meanings. The word *medium* has multiple definitions that are linked to specific fields of study and knowledge domains.

Medium n [the middle, neut.]

1. a) something intermediate b) a middle state or degree; mean (science, physics, math)

93 Howard Gardner, 1993

2. an intervening thing through which a force acts or an effect is produced *[*copper is a good *medium* for conducting heat*.]* (science, physics)
3. any means, **agency** or instrumentality; specifically, a means of communication that reaches the general public and carries advertising: in this sense, a singular form media is now sometimes heard. (literacy, theater, rhetoric, speech)
4. a surrounding or pervading substance in which bodies exist or move. (spatial, science)
5. environment. (politics, architecture)
6. a sterilized nutritive substance, such as agar, for cultivating bacteria, viruses, etc. (science, chemistry)
7. a person through whom communications are supposedly sent to the living from spirits of the dead. (intrapersonal, spiritualism, belief systems)
8. a material or technique as used to express or delineation in art. (art)
9. a liquid mixed with pigments to give fluency (art)
10. a size of printing paper,18 x 23 inches. (communications, physics, math,)
11. in the middle position; intermediate in quality, amount, degree, size, etc. – *adj.* (philosophy, science)
12. neither rare nor well-done: said of cooked meat. (chefs)

The term medium has specific meanings to physicists, chemists, philosophers, linguists, artists, spiritualists and chefs. Text in blue describes the learning or knowledge modality that is associated with the various meanings within parenthesis, to show how the word medium can represent a variety of knowledge domains. That the word *medium* shifts between subject and predicate suggests there is a transitory nature to the term and to language. How people define the relationship between materials and medium must be grasped physically and conceptually. Medium can be understood as the *subject of a statement;* "*the medium is the message*"[94] and the term medium can be indicated as a predicate; *paint is a medium.* What is the significance of the choice of

94 Marshall Mcluen

medium in this creative expression? Each domain favors its own definition of *medium* so that mathematics defines its *medium* as numbers, symbols and shapes; a musician's medium is sound, rhythm and silence and a scientist's *medium* is agar. The definitions of medium can be as different as an artist's *raw materials,* the occult, a scientific technique and a form of communication. Is there a process of association that binds these possible meanings?

Medium that is Present: Tangible and Intangible Objects

How have translations of the word *medium* changed through time? Plato in his dialogue Timaeus introduces the idea of *oúσία; ouisa (that which is one's own, one's substance, property)*, to describe the stuff that makes up the world. In the Aristotelian tradition it is usually translated as "substance," *ouisa*, a noun, derived from one of the stems used in conjugating the irregular verb oúσία, ("to be"). Substance is something present-at-hand. For the early Greeks all *matter* was made of some combination of the four elements; fire, water, earth and. (even Plato makes mistakes). Plato questions further though, saying we must know how an element IS itself and not some other element. This idea of wanting to know what something IS occupied the minds of philosophers, scientists, artists, politicians, doctors and children. Plato elucidates, "Anything which we see to be continually changing, as for example, fire, we must NOT call "this" or "that", but rather say that it IS "of such a nature."[95] Noticing observable characteristics and relationships reveals a cause and effect which separates the accidental features from true substance. However, Plato also said that substance is not permanent, because it is always changing its form: old/young, new/old, growing/dying, construct/deconstruct.

95 Plato. Timaeus. Trans. Benjamin JowettCambridge: Massachusetts Institute of Technology. http://clasics.edu/Plato/Timaeus.html
. Book X

In Aristotle's Categories he implies that *substance* is that which has an independent existence.[96] The substances that make up the world, according to Aristotle,[97] have a number of *characteristics* that can be tangibly described: *substance, quality, quantity, relation, place, time, position, state, action, and affection*. These characteristics can reveal the nature of a substance. From the earliest times in Greek philosophy there has been a great distrust in gaining knowledge from the senses, because substances or the objects of the world are always changing, there is no stability to judge their true nature. Therefore knowledge may only be grasped through the logic and reason that yields ideas. For Aristotle the world of the mind and ideas was the only truth.

Bertrand Russell in his book History of World Philosophy describes René Descartes' contribution to philosophy in his book Meditations as a restructuring of knowledge, "The Cartesian system presents two parallel but independent worlds, that of **mind and that of matter**, each of which can be studied without reference to the other. That the mind does not move the body was a new idea." In Descartes words, "I am a thing which thinks." [98] Remember it was Socrates who first said that man is a substance.

Martin Heidegger in his book Being and Time is not content with Descartes' concept of substance: "Sometimes this expression means the *Being* of an entity as substance, *substantiality*; at other times it means the entity itself, *a substance*. That substance (Greek *substancia*) is used in these two ways is not accidental; this already holds for the ancient conception of "ouisa" (substance, presence). [99] Heidegger continues to suggest that substances become knowable in their "attributes" and that every substance has some distinctive property from

96 Or the canvas when finished by the painter is still ready to receive the artists signature, but from the first stroke of the artist till the last, the canvas has not been changed by the its being painted and at the same time the canvas participates by establishing the space of the represented world.

97 Aristotle. Categories. The Classical Library. 2001. trans. E. M. Edghill. 2a13

98 Bertrand Russell, History of World Philosophy. p. 567

99 Martin Heidegger, Being and Time. H-90

which the essence of the substantiality of that definite substance can be read off. Extension -- namely in length, breadth, and thickness -- makes up the real *Being* of that corporeal substance which we call the "world."[100] Heidegger further separates substances into two categories: *extension* and *modes of extension*. The modes of extension do not make up the real properties of a substance but are the attributes that can be taken away. Thus color, shape, force, motion and so on are *modes of extension* that do not determine what the *Being* of an entity really is. Heidegger's conclusion is that:

> In any corporeal Thing the real entity is what is suited for thus *remaining constant*, so much so, indeed that this is how the substantiality of such a substance gets characterized.[101]

The distinction that Heidegger brings to the argument on substances is to separate that which is constant and real from that which is changeable and illusory. That water is a solid, a gas, or a fluid does not change its lasting quality as being a compound of hydrogen and oxygen or H^2O. The logic of science in this case reduces substance to its elements, stripped of its changeable characteristics. Science chooses a medium that is measurable, predictable and discernable by a measurable logic.

Heidegger suggests that *ouisa* is to be thought of as synonymous with the derivative noun παρούσία, "being at," "presence."[102] In this way media has a presence that goes beyond its accidental appearance. But where should all this talk about substance take us? We know all too well. Philosophy from Plato to Heidegger is only concerned with ideas, and the substance of the world only introduces variables of change that cannot undergo the test of reason. Since antiquity it was reason that was considered to be the method of a higher

100 Ibid. p. 91

101 Ibid. p. 92

102 Ibid. footnote p. H-25

understanding of the world that is hindered by the senses. However, it was Plato who said that seeing gives rise to language; noticing the revolution of years gives rise to numbers or math/logic; and inquiry about the universe gives rise to science. It was Plato who also criticized the senses as only an illusion and the only true knowledge is that which is gained by intelligible reason. How can sight give rise to knowledge modalities and at the same time give rise to illusion? Is there possibly another way of viewing the senses in a relationship to knowledge?

First off, if we look at science, which achieves knowledge by logic and reason as the absolute of knowledge, we will surely be misled. After all it was Aristotle who believed all the laws that governed the universe could be understand by thought alone. It wasn't until a thousand years later that Galileo demonstrated that Aristotle was wrong when he observed that bodies of different weight fell at exactly the same speed.[103] The senses may play a far more important role than is currently acknowledged. In the world of learning, the senses are all we have, at first. If seeing and naming the things of the world gives rise to language and observing the stars gives rise to science, then science by the concepts that it observes creates a body of understanding for reason to organize towards knowledge. Knowledge cannot be an end in itself, as new observations, calculations, and criticisms reveal flaws in existing knowledge that must be adjusted. The possibility of an absolute truth may be beyond reason. For the life-long learner, the notion of finding truth in substance can only reveal a transitory knowledge.

There are examples in history of scientists who mediated their own creative space outside the conventional methods for gaining knowledge. Albert Einstein, Hendrick Lorentz and Henri Poincaré are all credited with developing the theory of relativity, however, not jointly, but each through his own proposition, method and creative disposition. That philosophy is embedded in the place *of learning* is no surprise.

103 Stephen Hawking, A Brief History of Time 1988,15

How fortunate it was for the physicist, Albert Einstein,[104] to be born and trained in Germany during the *Golden Age* of German mathematics. Although Einstein was not known for his expertise in math during his early years, he wrote about his love of mathematical thinking but identified his imagination and practical ability lacking. However, his famous "thought experiments," inspired by a dream he had when he was 16 years old, were based on intuition and imagination rather than laboratory work. This dream image was instrumental in helping Einstein understand the problem in defining the relationship between space and time as being relative.

Jules Henri Poincaré[105] was born in France and trained by his gifted mother and father, who was a professor of medicine. Poincaré was considered a mathematics genius, not because of his great memory or logic, but for his unique ability to visualize what he heard proved. Despite his poor eyesight, he was able to visualize relationships by a method of linking the ideas he was synthesizing. Poincaré's logical-spatial understanding indicates an interdisciplinary understanding that allows for an interplay to occur between imagination and logic.

Hendrick Lorentz[106] was born in the Netherlands and at the age of twenty-two received his Ph.D. in mathematics from the University of Leyden. Lorentz is particularly well known for his tenacious method of completing the unfinished work of his predecessors, preparing the ground for Einstein's special theory of relativity.

There is an interplay of media, modalities and creative application that delineate ways of knowing outside the limits of the traditional method of discovery. Einstein considered space time as largely a problem of physics,

104 Einstein's Legacy http://archive.ncsa.uluc.edu/NumRel/EinsteinLegacy.html

105 Poincaire Biography http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Poincaire.html

106 Lorentz, Hendrick A.. "Biography". Amsterdam: Elsevier Publishing Company. 2005. Nobelprize.org http://www.nobelprize.org/physics/laureates/1902/lorentz-bio.html

through the understanding of light. Poincaré saw the problem as being mathematical and Lorentz considered it a problem of physics, through the understanding of electromagnetic forces.[107]

Throughout the eons creativity has left its mark throughout the disciplines and fields of knowledge. Philosophy, theology, science, the arts and technology, to name a few, have all had creative individuals who have moved the understanding of life in new and previously unexplored ways by using their *intuition* and *reason*.

Generating and Assessing Media

Knowledge must be reflected back into the world of senses as a proof of its legitimacy, otherwise knowledge becomes ideology. Philosophy is an historic reminder (a memory) of a moment of truth in a specific moment in time. While knowledge is constructed by reason, beauty is formed by the senses. In 1750 Alexander Buamgarten tried to raise the rules of the treatment of the beautiful to the level of the rules of science. Immanuel Kant describes Buamgarten's attempt as fruitless because "the rules are…as regards their *chief* source, merely empirical, and consequently can never serve as *determinate a priori* laws by which our judgment of taste must be directed." Kant suggests, "our judgment should be the test of the correctness of our rules."[108] Philosophy reflects back to the mind a critique of the process that yields a pleasure or displeasure. In this way aesthetics is an appropriate philosophy for considering medium, because of its sensual properties and for its conceptual properties.[109]

It is interesting that in Kant's second version of his Critique of Pure Reason, he chooses to modify his text by adding "*chief* " as a qualifier of "*source*"

107 Stephen Hawking, A Brief History of Time, p. 20

108 Immanuel Kant, Critique of Pure Reason, B34

109 ibid., B35

so as to suggest a relation with the *other source*. Kant also adds "*determinate"* to qualify *" a priori laws*", which by distinguishing itself from "indeterminacy." This edit between the first addition and second edition may suggest that Kant doubts the finite conclusion and suggests a new influence by media that is beyond taste or some other contingency. How does media hold knowledge? How does medium communicate its own content? What is smart media?

Medium Becomes Aesthetic Media

What is the *medium* of learning? How does philosophy direct education into practices that *construct knowledge*? What role do the senses play in the acquisition of knowledge? Kant's notion of a framework for the senses contributes a higher order reason on its path to knowledge. This framework may shed some light on the conflict that seems to exist in contemporary goals for education.

Kant presents the idea of *The Transcendental Doctrine of Elements*. Kant presents two ways of thinking about objects through *transcendental aesthetic* and *transcendental logic*. Instead of pitting logic against the senses, Kant acknowledges the senses as the starting point of any search for knowledge:

> *Intuition* and concepts constitute, therefore, the *elements* of all our *knowledge*, so that neither concepts without an *intuition* in some way corresponding to them, nor intuition without concepts, can yield knowledge. Both may be either *pure* or *empirical*.[110]

First we will step back and consider some of the key ideas that are presented in this last statement. Kant suggests that any manner of gaining

110 ibid., B74

knowledge that relates to objects is done so by *intuition*.[111] Intuition allows us to perceive specific properties of objects through our sensibilities that *receive* objects. A certain kind of ***receptivity*** is required for perception. And a certain kind of ***projection*** is required for expression. Kant suggests that the faculty of the ***imagination*** is responsible for forming *concepts* out of the "manifold of *intuition*" to be considered for knowledge.[112] That is, as *intuition* senses the properties, dispositions and relationships the *imagination* forms ***concepts*** to consider for knowledge. In the quest for life long learners it is the prolonged noticing, reflection and generative transformation that reveals differences, similarities and growth through a network of experiences. "Intuition takes place only so far as the object is *given* to us."[113] That something is given to us means that we are *receptive* to the representation through our *sensibility*. "Objects are *given* to us by means of *sensibility*, and it alone yields us intuitions: they are thought through the *understanding*, and from the understanding arise *concepts*."[114] In regards to our question about learning, we could say that learning does not occur when our *sensibility* is not receptive to the objects of a lesson. Our faculty of *sensibility* allows us to *receive* objects so long as they are *intuited* or sensed. Kant is also careful to point out that our sensibility is not just a physical feeling but also a mental understanding, as such we find that our sensibility relates to our self and the world around us. This *sensibility* is accomplished from physical and mental sensations through our *outer sense* (perceived in space) and *inner sense* (perceived in time) that intuit objects.[115]

Kant continues, "… intuition which is in relation to the object through sensation, is entitled *empirical*, [and] the undetermined object of an *empirical* intuition is entitled *appearance*." [116] An object of experience which corresponds to

111 ibid. B34

112 Immanuel Kant, The Critique of Pure Reason, B-102

113 ibid. B34

114 ibid. B34

115 ibid. B34

116 Ibid, B34

sensation refers to its *matter* and is empirical and that which cannot be determined describes the variations of *appearance* that refers to its *form*. The physical appearance of matter is given to us *a posteriori* and limited to the senses while the *appearance* of *form* is given *a priori* in the mind, ready for knowledge. Because form is represented prior to the senses, Kant calls this form *pure* (in a transcendental sense). The "… *pure form* of sensibility may be called *pure intuition.*" [117] The science of all *a priori* sensibility, Kant defines as *transcendental aesthetic*. One can begin to see how the world of *appearance* can embrace the sensibility of experience and how the *form* of the subject encourages pure thought. Kant summarizes the transcendental aesthetic this way: "The understanding can intuit nothing, the senses can think nothing. Only through their union can knowledge arise."[118]

The importance of these differences that Kant brings to the notion of intuition and imagination is crucial. Applied to a work of art, such as Alberto Giacometti's *Three Men Walking*, the conflict arises around an issue that directly relates to Kant's understanding of the role of intuition and imagination. The conflict often goes like this: on one side, a viewer is commenting on the nature of the sculpture's *matter* or *material* of the work of art as representing a skinny, frail, bumpy, stretched-out, boney, emaciated, skeletal body. This is a good phenomenological or empirical description of the physical *appearance* of the sculpture. The next viewer notices a conceptual understanding of the sculpture's *form* that communicates an idea. By concretely reading the characteristics of the sculpture's outer appearances, the viewer's intuition limits understanding till it becomes an object of imagination. On the other side of the argument are viewers who use their imagination to interpret the "form" of the sculpture. Here students will synthesize meaning based on associations between the figure's authoritative body language, psychological expression or sense of urgency. These forms trigger a conceptually intuited response. Both the intuited topology

117 Immanuel Kant, The Critique of Pure Reason, B-35

118 Ibid. B-35

and the imagined forms are conditionally correct. The true genius of Giacometti's sculpture is in the presentation of two diametrically opposed understandings of these differences. The imagination synthesizes this complex relationship between the intuited understanding of the material nature of the sculpture and its conceptual counterpart that projects its contradiction into the present life of the viewer.

This intuition of the chosen material plays an important role in the life of contemporary art that places significant importance on the agency of material in relationship to a concept or idea under exploration. R. G. Collingwood in his book The Principles of Art comments on this act of synthesis that is behind every thoughtful spoken word, "Every utterance and every gesture that each one of us makes is a work of art."[119] While it may seem extreme for Collingwood to suggest the term "work of art" in every action, Kant's theory of *synthesis*, clearly suggests that our every *word* and *gesture* is an act of generation / creation.

Choosing a Medium to Live In

The end of the 19th century marks the beginning of a new way of thinking about art making. Maurice Merleau-Ponty calls attention to the philosophy "which animates the painter – not when he expresses his opinions about the world but in that instant when his vision becomes gesture, when, in Cezanne's words, he 'thinks in painting.'"[120] The birth of Modernism calls attention to *how* we express an artistic vision. The place of *materials* in the creative process of modern art can be seen as taking a new direction and replacing the romantic representational painting and sculpture of past generations with experimentation that encouraged new ways of generating art through non-art materials. Found objects had associations to a prior history that interacts with interpretation. The materials of

119 R. G. Collingwood, The Principles of Art. Oxford University Press, 1958. p. 386

120 Maurice Merleau-Ponty,. Eye and Mind , Continental Aesthetics, p. 298

art acquire an agency that goes beyond the surface of appearance: camera / film, Dada / machines, cut-ups, poems, Pollock's drips, "medium as the message" and virtual reality.

Acts of creation require some *thing* to hold the expression, be it words for thoughts, sounds for music or materials for art. John Dewey in his book Art as Experience insists, "Only where *material* is employed as *media* is there expression and art."[121] The artist converts oil and pigments into paint and produces a visual image of an imagined experience. However, it is not the mechanical production of materials into expression, but the manner in which the materials are used. Dewey continues, "Everything depends upon the way in which *material* is used when it operates as *medium*."[122] A house painter may share with the artist many of the techniques and a similar understanding of the medium of paint, but for the artist the role of paint is as an agent of expression and communication. The purpose of the paint for the house painter is for the paint to be noticed, while the purpose of paint in an art work is not to be noticed, but to disappear into the image or representation of the communicated expression, that is the painted work of art. This transformation from medium to message occurs, in Dewey's words, "Because objects of art are expressive, they are a language. Rather they are many languages." The individual character of each language shows, not necessarily in its unique content, but in the combination of the feel of the medium with the act of the expression. This is not to be misunderstood as an attempt to anthropomorphize artistic materials, but rather to indicate a certain agency of the materials toward s a given expressive language. Dewey suggests, "For each art has its own medium and that medium is especially fitted for one kind of communication." Poetry, art, science, philosophy, music, dance, and theater use media that are conducive to each unique expression. Dewey continues; "Each medium says something that cannot

121 Dewey, John. Experience & Education. New York: Touchstone, 1938. p. 62

122 Ibid. p. 62

be uttered as well or as completely in any other tongue."[123] The relationship of *art forms* to medium is interesting because it is really going through a kind of change from the generation of natural materials to a generation of processed media. Currently, the new media is virtual and artificial media. Dewey suggests a decisive hierarchy of knowledge modalities that still exists. Dewey criticizes the cultural implications of language and math as the sole indicators of intelligence. This limited notion narrows the expressive potential of individuals by forcing a preconceived outcome. The materials are not anthropomorphized here; rather, media becomes the vehicle and agent for human expression.

Vital Interest of Medium

Dewey's notion of the arts as an *agent* of communication suggests that *medium* has a relational affect on the choice of artistic discipline. Conversely, the generation of art is impeded by a facilitator dictating the choice of an art medium that is alien to the artist's manner of working. At first glance the choice between different kinds of artist paints (oil, pigments, egg tempera, gauche, acrylic) might seem to be a choice of mere appearance; but because material becomes media (language) in the artist's hands, it is formed with a touch that marks or records an artistic thought-gesture which links a certain physicality with a certain conceptuality. It is not a cliché to suggest that each artist must find his or her medium because in our global world it is necessary to communicate in multiple mediums and in divergent languages.[124]

Often in school art lessons young students are restricted in their choice of medium and led by instructions that frame or determine a project outcome. Dewey points out another important relational characteristic of art material:

123 Ibid. p.105

124 Dewey, John. Experience & Education. New York: Touchstone, 1938. p. 62

> … whatever narrows the boundaries of the material fit to be used in art hems in also the artistic sincerity of the individual artist. It does not give fair play and outlet to his vital interest. It forces his perception into channels previously worn into ruts and clips the wings of his imagination. [125]

Literally taken, *vital interest* implies *the life between the becoming* or *a claim to life*. For Dewey the vital interest of the medium suggests that the *materials have something that matters on behalf of life*. This does not necessarily mean that materials need to be sophisticated, but that they fit the message. Dewey continues, "the universality of the art is so far away from denial of the principle of selection by means of *vital interest* that it depends upon interest." [126]

This implies a relationship between media, the artist and the generated expression idea. It quantifies and qualifies in a dynamic moment held in mediation by the agency of materials that fit or do not fit. Some artists use materials and media that suggest an antithesis. Materials may intentionally NOT fit, as is the case of Marcel Duchamp's, *Bicycle Wheel or* Méret Oppenheim's *Object*, fur-covered cup, saucer and spoon.[127] Our choice of materials for expression, whether words, symbols, images, sounds, objects, numbers or raw materials is itself a creative act.

Transactional Agency of Media

Dewey is largely instrumental in articulating the agency of media in the arts, however Louise Rosenblatt in The Poem as Event takes Dewey's concept to describe further the "transactional agency" between the poem and the reader. Rosenblatt researches the process by which readers arrive at interpretations of

125 Ibid. 109

126 Ibid. 109

127 Meret Oppenheim. Object, Fur covered tea cup. 1936. mixed medium. Museum of Modern Art, New York.

unfamiliar poems. Focusing on the paths to interpretation in unfamiliar territory. Rosenblatt forces her readers to discover and grasp for a framework that leads to meaning and interpretation of a text. Rosenblatt considers this process of discovery a 'situation' between the reader and text. Rosenblatt calls this situation the 'event' of the poem and continues, "The relationship between reader and text is not linear. It is a situation, an event at a particular time and place in which each element conditions the other." [128] The reader conditions the poem and the poem conditions the reader. That this process is ongoing suggests an experience over time where the reader's intuition, imagination, thinking and reflection act upon the text, and in a non-linear method the words, relationship of words and the poeticism of the words present and re-present themselves to the reader. Rosenblatt continues, "'Transaction' designates, then, an ongoing process in which the elements or factors are, one might say, aspects of a total situation, each conditioned by and conditioning the other." [129]

Dewey rejected the simple *stimulus response theory* in the 1890's and suggested a more complex relationship. An important part of Dewey's *transactional* view, says Rosenblatt, is that "in a sense the living organism selects from its environment the stimuli to which it will respond."[130] Dewey speaks of the "transactional" experience of the artist in choosing a material to produce a work of art that "fits" his or her vital interest: We select what we want to be stimulated by. Dewey continues,

> Something, not yet a stimulus,… becomes a stimulus by virtue of the relations it sustains to what is going on in this continuing activity, It *becomes* the stimulus in virtue of what the organism is already

128 Louise Rosenblatt in The Poem as Event, 16

129 Ibid. 17

130 Ibid. 17

preoccupied with.[131] (Habits, conventions, assumptions, expectations; framing)

Conceived as a whole, our making language and reading language form a total communication event. The possibility is that we are *stimulated* into conventions or we are stimulated into new understanding.

At the end of the 19th century and into the 20th, the view of the world was beginning to change in many ways due to a variety of inventions and theories: DNA, quantum theory, Nietzsche's pespectivism, Einstein and Poincaré's relativity, Impressionism and Edison's movie camera all point to radical new ways in which we create and reflect on our world. Our place in space time becomes the new media.

Merleau-Ponty: A Relation with Self in the World

Maurice Merleau-Ponty in his article Eye and Mind[132] suggests that we need to address any study of humanity as being "seated in the world."[133] Being seated in the world implies a positionality and point-of-view that is unique to a "self that is in access to the world" that indeed can be taken as a self that is in a close relationship to the world as medium. So we will continue with the role of medium in creativity as having various dispositions inclined to choice making, interaction with thinking and fulfillment of a vital interest.

Merleau-Ponty suggests that it is Rene Descartes who situates our presence of body as against the external world, "A self whose hand defines itself,

131 Ibid. 17

132 This article is printed in Continental aesthetics but was first printed as "L'Oeil et l'esprit," published in the inaugural issue of Art de France, vol. 1, no. 1. January, 1961.

133 Maurice Merleau-Ponty in his article Eye and Mind, 298

not by its touch of the world but by how it deposits itself."[134] As such, it is the *way* that Jackson Pollock deposits his medium of paint that opens new possibilities. For Pollock, even the canvas is situated in a new way, no longer on the easel, his canvas is on the floor. Pollock stands above, and on the canvas, depositing paint with sticks, pouring paint from buckets, ashes dropping from his cigarettes onto the canvas, beer tabs embedded in the paint. Gravity becomes a part of the creative process as *painting* is replaced with *trajectory* on to canvas. Pouring, dripping and flicking paint are unexpected descriptions of Pollock's method. The canvas becomes the world that receives Pollock's deposited world. Merleau-Ponty describes a relationship between self and the world that *is* the place of painting where Pollock intuitively deposits himself and his nails, keys, tacks, buttons, cigarettes, matches and of course, paint (see Full Fathom Five, 1947). Merleau-Ponty continues to address the limits of this world:

> It is a space reckoned starting from me as the zero point or degree zero of spatiality. I do not see it according to its exterior envelope; I live in it from the inside: I am immersed in the world. After all, the world is all around me, not in front of me.[135]

Although Descartes presents an awkwardly deterministic characterization of this experience of being in the world, Merleau-Ponty reframes the notion of "place" by emphasizing the *connection of perception* in its relationship to a "lived body in access to the world".[136] This *access* to the world, Ponty suggests, is an active relationship to the world that affects a variety of circumstances ranging from needs to desires.

However, in Pollock's hand, the medium of paint is a matter of vital interest. The media of paint is liberated. The very nature of the media of paint

134 Ibid., 297

135 Ibid. 297-298

136 Ibid., 297

can now be what it really is… liquid, fluid, dripping, spraying, deposited and expressing its gravity plus the flotsam and jetsam of daily living. The materials of art are intermediated by the directed VITAL gesture of the artist's body/mind, arm, hand, fingers, and brush of the artist acting and being in time. When Jackson Pollock painted *One (Number31)* and *Autumn Rhythm (Number 30)* in 1950 he freed paint-media from representation and opened a new kind of space for our imagination to consider.

It is interesting to note and compare *how* the paintings of Jackson Pollock were made prior to his revolutionary "drip" or "pour" paintings of the late 1940's early 1950's. Even in his earliest painting with drips, Full fathom Five, Pollock was painting with extremely thick layers of paint that were compressed into small vertical rectangles of stretched canvases. The *splatter* and drip technique of painting, that made Pollock famous, was actually invented by the painter David Alfredo Siqueiros, who in the late 1940's taught a technique workshop that was attended by Pollock. While Siqueiros used this technique in mid 1940's paintings, the new technique in Siqueiros' painting, *Collective Suicide*, is used as a small visual element in a larger pictorial narrative. This technique in Pollock's hands opens a new way of thinking about painting and becomes the central characteristic of his art.

Marshall McLuhan coined the phrase "the medium is the message,"[137] which is a good way to think about the means that allows the artists known as Abstract Expressionists to use paint in a manner that is said to make *paint* the *subje*ct of the painting. In a film by Hans Namuth,[138] Jackson Pollock's *Composition: One*, could be understood as a choreography of paint. What one sees in this film is Pollock's kinesthetic gestures as he creates his art with dripping brushes and thrusts of pouring paint. Ivars Peterson goes further, to

137 Marshall McKluhan,. The Medium is the Message. New York: Random House. 1967.

138 Clips from the Hans Namuth movie of Jackson Pollock. Artfacts.net
http://www.artfacts.net/index.php/page/artistinfo/artist/1430

show how Pollock's paintings are two dimensional maps of his three dimensional movements around his canvas. In this way it could be said that the paint embodies Pollock's movements. Pollock describes his process in the Namuth film as being embedded in the paint, "the way I paint is a natural growth out of the medium."[139] Paint reveals the kinesthetic dance of the artist-painter through the physical properties of paint as pigment, fluid and oil are layered, dripped, poured and splashed reveal process as content rather than narrative as content. When studied by physicist Richard Taylor, Pollock's movements around the painting are analyzed in such a way as to reveal a "fractal nature" that resembles the kinds of patterns and repetitions that are found in nature.[140] Paint, freed from the task of mimesis and representation can show its own true nature; fluidity, flow, pattern and gesture. Alain Badiou[141] takes this idea further as he considers "the poem [or paint] freed from philosophical poeticizing"; paint represents itself as presence. This "leap outside calculable interests"[142] is precisely the kind of leap that Pollock makes into the world of paint. Pollock "presents the presence" of paint as media.

The Sublime: Art Media as Doubt

It is here at this split between reason and imagination that the medium of the world slips into the media of the sublime, where the concept of ideas consumes the practical limitations of material substance and focuses on a noticing of life media. It is the creative space of the sublime where things start to happen. This is the place where imagination and reason reach their limit, as was discussed in Chapter One. In John Tancock's article, The Influence of Marcel Duchamp, he describes the shift in the 1960's when he begins to doubt the self-expression of Abstract Expressionism and its reliance on the artist's **h**and and

139 Hans Namuth, down load film. http://www.nga.gov/feature/pollock/process3qt.shtm

140 Richard Taylor's scientific analysis of fractal patterns was seen on ABC's Art and Science broadcast in May 1998

141 Alain Badiou, Infinite Thought, Philosophy and Art,

142 Ibid. 100

the physical purity of painting. Tancock sees Duchamp's attitude in a non-messianic manner, as if he were directing a new vanguard. However Duchamp describes his attitude as "Doubt in myself, doubt in everything. In the first place, never believing in truth."[143]

Marcel Duchamp was one of the earliest, more philosophical new media pioneers, who understood the Kantian concept of the sublime. Duchamp invents a method he calls *Readymades*, to indicate that the medium of the art is already made. Duchamp merely arranges the parts in such a way as to create a new context. His new artworks begin to present a conceptual point-of-view that prompts Duchamp to say, "art is non-aesthetic,"[144] that is, the traditional sense of beauty is in the content or context of the artwork. Duchamp also presents a philosophical disruption of conventional logic, and says, "I would much rather breathe air than make art."[145] Duchamp attacks the history of the idea of beauty and in doing so introduces a dialectical aesthetic through Readymade artworks that juxtaposed media in unexpected ways that evoke the sublime. In the light of this new aesthetic, beauty is no longer an end but something that emerges through the process of considering its antithesis. In this case we can call it a confrontation with an unknown or the sublime. By rejecting the notion of 'beauty' as an absolute, the work-of-art is more able to address the ideas of divergent and more complex issues. Art is free to address new issues: absurdity, humor, contradiction, satire trickery, jokes and parody.

Duchamp prefers a methodical doubt, writes Michel Sanouillet in Marcel Duchamp and The French Intellectual Tradition. Duchamp introduced an art that doubts the conventional tradition of aesthetics as beauty in the eye of the beholder and interrupts our way of experiencing a visual event. Duchamp's

143 John Tancock's article, The Influence of Marcel Duchamp, p. 165

144 Ibid. p. 165

145 Marcel Duchamp quotes at Zaadz, Inc. URL: http://zaadz.com/quotes/authors/marcel_duchamp/

concept of the *Readymade* questions the logic of an image that does not transmit a stimulus to the senses but to the mind. Sanouillet portrays this eloquently:

> Duchamp seemed to those around him an intellectual, that is to say, an individual passionately interested in the adventures of the mind, in the cerebral play of thought and the delights of pure intellect.[146]

This notion of logic and play introduces a learning method of a higher order. The philosophical imperative *to doubt* means accepting contradiction as an interplay: a momentary truth that should not be taken as an absolute truth. What can lessons on the sublime teach us about the world we live in? For Duchamp the difference between painting and writing was non-existent. Both are optical stimuli that are received by our senses as the play of color, shapes and forms that must be deciphered by our mind through the presented signs and codes.[147] While someone might expect that Duchamp's propensity for intellect would favor written language, he had a strong distrust for the literary tradition of his day which abhorred the lyricism of the Romantic Age; instead, Duchamp sought to intellectualize painting and sculpture.

Duchamp introduced an anti-aesthetic message to the art world that was in direct opposition to the remaining vestiges of 19th century Romanticism and embraces the machinery of the Industrial Revolution. *Nude Descending a Staircase* was painted in 1912 and reveals Duchamp's visual understanding of the synthetic space of Matisse, the analytic cubism of Picasso and the futuristic dynamism of Boccioni. While the objectives of Futurism were largely an effort to anthropomorphize the dynamics of the machine, Duchamp's approach was more of a conceptual artifice of the modern world that caused him to define the term *Readymade*. Tancock suggests that Duchamp immediately shifted to *collage* as a medium because the anonymous mechanically produced photographs used to

146 Ibid. 48

147 Michel Sanouillet in Marcel Duchamp and The French Intellectual Tradition, p. 48

make a collage, removed the trace of the individual and called attention to the context of art. In 1913 Duchamp created his first *Readymade*, (so called because the medium of art is manufactured).[148] Duchamp's move to *Readymades* was mostly a result of his disinterest in the aesthetic implications of painting. A year later Duchamp says, "I want something where the eye and hand count for nothing."[149] Forty-eight years after making his first *Readymade* Duchamp defined their characteristics: No beauty, no ugliness, nothing particularly esthetic about it."[150] Here Duchamp seems to step outside of art. The normal procedures for assessing and judging art depended on a product to reflect on, through a visual literacy of line, form, color and mostly, a pictorial narrative. Duchamp, by removing the attraction or repulsion of *taste*, epitomized a Kantian shift from the aesthetic of the beautiful to the aesthetic of the sublime. It could be said that this shift beyond the knowable, beyond the senses, is just the place where thinking enters a quiet space that for a moment experiences the removal of self as a means of communication.

Sometime during 1916 Duchamp reproduced *Bicycle Wheel* [151] and posed a question about the meaning and relevance of the terms *original* and *unique* in regard to a work of art that is a copy. The significance of Duchamp's question pre-dates Walter Benjamin's philosophical exposition on "the copy" in The Work of Art in The Age of Mechanical Reproduction. Benjamin questions the philosophical legitimacy of the concept of an *original* in defining the value of a work of art. For Benjamin, that which is *constructed* is like a montage in which fragments reveal an understood whole. At the same time montage has a critical *destructive* dimension that interrupts the conventional concept of the image.[152]

148 Ibid. p. 161

149 John Tancock's article, The Influence of Marcel Duchamp, 161

150 Museum of Modern Art , catalog, p. 279

151 Marcel Duchamp. Bicycle Wheel. Readymade: bicycle wheel, diameter 64.8 cm. mounted on a stool, 60.2 cm high. Original lost

152 Benjamin, Walter. "The Work of Art in The Mechanical Age of Reproduction". Continental Aesthetics: Romantiscm to Postmodernism. Ed. Richard Kearney and David Rasmussen. Chicago: Blackwell. 2001 (1936), p. 75

Technology in the 21st century requires certain shifts in thinking about communication. Electronic media can be generated many times to produce exact clones. A digital artist can construct a virtual art object that exists as electronic signals, manipulated by the choices of the instrument's operator. Instead of painting on a canvas, a computer artist moves a mouse to create electronic data or optical signals that are burned onto metallic disks. The development of electronic technologies has pushed the arts and education into new territories. The transformation of media from analog to digital brings about a change in the way we think about communication.

Abject Media

Klaus Ottmann considers the place of the abject within the "genius" through the writing of Julia Kristeva who says "…Abject is the ambiguous; it lies "in-between, …between inside and outside, It straddles the Imaginary and the Symbolic." [153] Kristeva situates the abject

> **...** at the limit of primal repression' in the drama that unfolds in Lacan's Mirror Stage: As in *Joussance* where the object of desire,…bursts with the shattered mirror where the ego gives up its image in order to contemplate itself in the Other, there is nothing either objective or objectal to the abject. It is simply a frontier, a repulsive gift that the Other, having become alter ego, drops so that 'I' does not disappear in it but finds, in that sublime alienation, a forfeited existence.[154]

This may also be why Duchamp told Andy Warhol, that the only way for an artist to create something significant was to "go underground."[155] Although Warhol didn't really seem to understand what Duchamp meant by this, it seems

153 Kristeva in Klaus Ottmann, The Genius Decision, p. 35

154 Klaus Ottmann, The Genius Decisioin, p. 34

155 Warhol, Andy and Pat Hackett. POPism: The Warhol '60's. New York: Harper & Rowe, Publishers. 1980. p. 47

Duchamp had already made it clear in his *Readymade* art in stating his desire to remove himself from the art object. That is, Duchamp rejected the ”I” as an *I-deal*, that is always fixed on the other: Instead, Duchamp seemed to understand Lacan’s *infans* stage, which discovers an “I” that frees itself from the image of its other, hence Duchamp suggested that real art must go “underground” (the sublime alienation).

Duchamp consciously shifted his medium to collage so as to remove the traces of human personality and entered the world of the *abject.* The *ideal* identity of the artist disappears in favor of an *“I”* that does not grasp the whole. In *Network of Stoppages*, Duchamp used collage as a process that associates fragments into layers of networks. Abject diagrams, numbers, mechanical symbols and graphic designs appear layered over a (Cezanne like) aerial impression of a forested landscape. This technique is achieved through a *deconstruction* of an image that is cut up into fragments, as in collage or in film where montage images are superimposed or reconstructed into a new fragmented whole, and speaks to the dialectic nature of a knowledge system that considers the interplay of *thesis* and *antithesis* in the forming of its truths. This process destabilizes the narrative interpretation of an image and refocuses attention on noticing undiscovered associations between events. By cutting away and removing a part of an image, there is an accompanying urge to ask about what was cut away and why. Because each layer of a montage has a unique history, any one narrative could not express a sense of a whole event. Instead icons, sounds, animations and networking speak to multiple interpretations. This kind of thinking process becomes a key feature in the *computer icon* which becomes a carrier of multiple banks of images or information. Instead of a hierarchy of the images, Duchamp presents a *multiplicity of decisions*.

Marcel Duchamp may be the best known artist for defining the early process of conductive thinking that is facilitated by the network logic of an electronic media. The logic of a network allows for a global awareness that

reveals unexpected associations, redundancies, poetics, strengths, flaws and unknowns. That Duchamp was comfortable in a variety of experiences suggests his practical application of network thinking. His work explores a variety of languages and mediums across disciplines: Duchamp embodies the imagination of an artist, the logic of a chess player, the eye of a filmmaker, the intrigue of a poet, the playfulness of a trickster, the discernment of a curator, the skills of a graphic designer and the disposition that is open to a dialectic. As a writer Duchamp was best known by the pseudonym, Rrose Selavy, his trans-identity. The epitome of abject media for Duchamp's public was his *Fountain*,[156] a men's urinal bought at "Mott Works" company, signed R. Mutt. *Fountain* was rejected by a jury-free exhibition as being immoral; Duchamp defended his creative process in 1917:

> Now Mr. Mutt's fountain is not immoral, that is absurd, no more than a bathtub is immoral. It is a fixture you see every day in plumbers' show windows. Whether Mr. Mutt with his own hands made the fountain or not has no importance. He CHOSE it. He took an ordinary article of life and placed it so that its useful significance disappeared under the new title and point of view—created a new thought for that object.[157]

Kristeva further defines the dispassion of the abject 'it dissituates,' 'it deterritorializes. …'it is a present out of place,"_a "nonsite" [158] Duchamp's placing of the fountain in a horizontal position de-territorializes its common use. Its situation shifts from the bathroom wall to the gallery pedestal were it straddles common sense.

156 Marcel Duchamp, Fountain. 1917. Readymade: porcelain urinal. Height 60 cm. Philadelphia Museum of Art

157 D'Harnoncourt, Anne and Kynaston McShine. Marcel Duchamp. New York: Museum of Modern Art and the Philadelphia Museum of Art. 1973. p. 283

158 Klaus Ottmann, The Genius Decisioin, p. 32

Electronic Media Across Modalities

Electronic technology opens the arts to another way of thinking about the art of communication. Duchamp inspired a network of artists around the world who developed a new art form called Intermedia art. The instrument of this new art form today is mostly the computer. Electronic technology opens new ways of thinking about how, why, where and when knowledge, meaning or expression is transmitted: The process of this new media is called *hypermedia*, because it is media that has the capability to link to related contextual sources. Hypermedia is embedded in technologies such as e-mail, electronic data bases, virtual reality games, word processors, spreadsheets and numerous electronic technologies. Using hypermedia requires new systems of logic that are discovered beyond the bounds of the traditional model of literacy. Hypermedia is a form of intermediation that facilitates the process of integrating multiple knowledge modalities.

Duchamp's numerous experimentations with media, diverse ways of thinking and facility across disciplines epitomizes interdisciplinarity. Thinking in a variety of media, Duchamp maintains a sense of play as he hones a visual idea: All media is subject for thought, from physical properties to four dimensional theories on space/time that Duchamp understood through conversations he had with his close friend Maurice Princet, a mathematics theorist. Duchamp's visual understanding of space/time is apparent in his 1913 painting, *Nude Descending a Staircase*. Through transparent and opaque repetitions of fragments of a body, the illusion of a person moving through time is presented. Duchamp's painting, *Network of Stoppages* is another good example of Duchamp's experimentation with space-time reality in which a diagrammatic schemata (matheme) of a four dimension space/time situation is presented. In his *Readymade* artworks the four dimensional space/time situation occurs in the mind and lingers in play like the strategic thinking one engages in during a chess game.

In 1968 Duchamp collaborated with John Cage in creating an electronic chessboard that triggered sounds as each chess piece is moved. The chess game becomes a musical score. To record his chess games Duchamp made little stamps to print the “game moves” in his notebooks. Duchamp reveals throughout his life the ability to shift between knowledge modalities so as to create and transform his art through an interdisciplinary process. Collaboration of this sort is not just a purely intellectual experience because the thinking is seated in an active medium. The context of medium for Duchamp and Cage, on the other hand is a matter of thinking that is set into play by imaginatively considering new relationships in the elements across disciplines. Music composer John Cage's ~~a~~ fascination for numbers occurs from chance operations and indeterminacy. Cage found in Duchamp an artist who could think outside the elements of his domain, thinking through media outside the conventional methods of a discipline.

Cage would organize sound with the throw of a dice or a computer program that generated random numbers. Chance operations as a compositional choice, allowed Cage to explore networks as a compositional process. *HPSCHD*[159] by John Cage and Lejaren Hiller utilized multiple concurrent harpsichord performances through a large environment of projection screens displaying 50 simultaneous films and 50 sequencing slide projectors with images generated from NASA and public media. Many artists from Dada, Surrealism through the 1950-60, have pioneered electronic artworks that generated collaborations across modalities. For more examples of Intermedia artists on the Internet you can hyperlink to John Cage, Merce Cunningham, Jasper Johns, Alwin Nikolais, Fluxus, The Wooster Group.

159 HPSCHD by John Cage and Lejaren Hiller. 1960

Hypermedia as Apparatus: Media Literacy

The book as a media system introduces us to the term *literacy*. How do systems of learning transform over time? Prior to written languages, dance, music, drawing, painting, sculpture and architecture signified the knowledge and history of the past. When spoken language was first recorded it was scribed into pictographs that symbolically reflected a history of experience. Prior to written history, the way knowledge was transferred from generation to generation was by oral recitation. It took a thousand years for written language to become available to the masses. How did the invention of the printing press affect literacy? How does the mass ownership of books by individuals affect social relationships? Through Guttenberg's printing press the great books of knowledge could be copied or translated to multiple languages and be sold across the world. World knowledge was available in a new way.

Hyper-literacy in the 21st century provides a new world perspective that is immediate and lived in the moment through a new electronic apparatus. How does the use of electronic media, further transform literacy? Literacy as we know it is being transformed by electronic media. A professor of English, Gregory Ulmer has a name for the new literacy called "*electracy*" and in his book Heuretics: The Logic of Invention he describes how knowledge is transmitted through the medium of electricity. This novel way of approaching knowledge requires some new considerations. The invention of the camera becomes the apparatus that begins to displace literacy. "A picture is worth a thousand words," makes such a claim. Ulmer believes this shift does not replace literacy but exists alongside it. Or perhaps we are living in a hybrid state: "electracy" as a process of knowledge uses computers as a means of generating a virtual or hyper reality. The *letter* is to literacy as the *e-mail* is to hypermedia. Hypermedia as such is different from the letter in that the letter takes days to deliver through manual carriers, while the e-mail is sent, for all practical purposes, instantly. The medium of hypermedia is electrons, particles and light but its real contribution as a

knowledge system is that it has as its main property an ability to explore knowledge instantly: hypermedia is present and available through the internet. The disadvantage of this new media, however, is that it brings with it problems: issues of privacy, identity theft, worms, bugs, security and loss of data.

Ulmer suggests that the use of the *image* carries an important role as an *icon* in the language of computer technology. Ulmer is seeking to define a method for creativity in Benjamin's work, specifically *The Arcades Project*. Ulmer's search for a creative method considers Benjamin's notion of the "composers card box"[160] which Ulmer sees as a pre-writing database**:** "the user of the database **. . .** encounters in principle the full paradigm of possibilities through which a multitude of paths may be traced." Ulmer describes *academic writing*, largely, as a *cause and effect* logic of argumentation that follows a linear path towards a deduced, "right answer." With *hypermedia*, a database or information is organized in a network, and meaning is constructed through a conductive associational logic that occurs through a non-linear method. In *hypermedia* there are usually many solutions to a problem**;** the truth in any one given interpretation destabilizes any totality and what remains are multiple points of view that realize a moment of truth. Academic literacy favors the product and hypermedia favors the process

Because each layer of a hypermedia is a unique history, any one narrative could not express a sense of a whole event**.** Instead icons, sounds, animations and networks of different points of view are available for inquiry: knowledge is actively experienced in hypermedia rather than merely described as in a lecture on knowledge.

160 Gregory Ulmer, Heuretics: The Logic of Invention. p. 38

Hypermediating the Image

In his book One Way Street Benjamin attacks the notion of languages as the best choice of *medium* for communication. His inclination is towards the *image* rather than the text:

> Only images in the mind vitalize the will. The mere word, by contrast, at most inflames it, to leave it smoldering, blasted. There is no intact will, without exact pictorial imagination. No imagination without innervations.[161]

This mental image of new possibilities is precisely what happens when we read books. We picture in our mind with great detail what the language evokes. The development of the use of image in the 19th century through photography led Benjamin to consider the possibilities of a history of communication through photographic images. Susan Buck-Morss presents Benjamin's theories in his Passagen-Werk. Benjamin uses historical images to construct philosophical ideas.[162] Benjamin presents an

> …historical construction of philosophy that is simultaneously (dialectally) a philosophical reconstruction of history, one in which philosophy's ideational elements are expressed as changing meanings within historical images that themselves are discontinuous - such a project is not best discussed in generalities. It needs to be shown.[163]

161 Walter Benjamin's idea in his book, One Way Street, p.75

162 Buck-Morss, Susan. The Dialectics of Seeing. Walter Benjamin and the Arcades Project. Cambridge: The MIT Press. 1989.

, p. 55

163 Ibid.

This description is such a good example of the internet's global network of histories, all simultaneously transmitted as little packets of binary data expressed as 1's and 0's. Like Duchamp's world, Benjamin's media also acts like a montage, activated by the associational noticing through the network of thought images.

Ulmer says this shift is a destabilization of "*language as literacy"* that is comprehended in a linear method in contrast to the way we experience literacy in hypermedia in a non–linear method. However, *text* and *hypermedia* coexist as carriers of knowledge in hypermedia. Just as oral history as a carrier of knowledge was not replaced by written history, there is just a certain practical advantage to written history. Discovering associations from the multiple perspectives of a network of experiences, the conductive logic of hypermedia supplements the coherency of the narrative logic of academic literacy by opening unexpected relationships and discoveries. Through the internet and electronic technologies distance is relative. Space and time are open to the present knowledge in a new virtual way. But it is not enough to gather knowledge; one must generate something from this knowledge.

The real issue is having something to say; understanding how and why we choose literacy (words) or hypermedia (icons) for generating communication. New technologies of the twenty first century will certainly continue to become more computerized, more networked and more virtual. The media of this electronic age is termed *hypermedia* and its thinking process involves a conductive method of association. Hypermedia is said to *jump* to new destinations over a network. The process of hypermedia is like Kierkegaard's leap into the faith of the event. Hypermedia has its own vocabulary that facilitates a global thinking construct. Single words become icons that indicate more than they say. With a dialectical disposition, the philosophy of the utility program reminds us of the duties of each software command. Words as icons have hidden loaded suggestions: FILE, get in line; EDIT, get it right: TOOLS, get

to work, WINDOW, change your view; and HELP, get the method. Or hypermedia becomes a process for opening a space for media communication. The internet is the most sensible and direct interface to structure and use hypermedia as a process for connecting to our world.

The resistance to hypermedia is that literacy is being sacrificed because of electronic entertainment. There is a relationship with play and learning that should not be dismissed. The motto, "the sum of the parts is greater than the whole" may describe a philosophic point of view for the mid 19th century. The motto for the product-oriented Industrial Revolution would be, "*many interchangeable parts equal many wholes.*" In the 21st Century this motto might be revised to, "*the wholes make up a part of a network.*" This more ephemeral understanding of our place in nature presents to Friedrich Nietzsche a *self* that proceeds "playing the wicked game" and "feeling both the duty and burden of life's temptations," [164] while to Heidegger an intellectual self that *thinks* by letting curiosity fabricate something new.[165]

An example of someone who considers the way "wholes" become "networks" is James Burke. What Thomas Edison is to the *aesthetics of science*, James Burke is to the *sublime of science.* Burke is known as the historian who produced and hosted the PBS program *Connections.* [166] Burke "explores the surprising connections among the seemingly unconnected people, events and discoveries that have shaped our modern world."[167] Burke considers an object, such as an automobile and traces all the inventions that are associated to its own being invented. A network of creative inventions emerges across seemingly divergent fields of discipline. The linking of diverse inventions form a network of

164 Friedrich Nietzsche, Beyond Good and Evil

165 Martin Heidegger, Being and Time, (BT-H238)

166 Public Bradcasting Service. http://www.pbs.org PBS is a non-profit media enterprise that supports educational programming.

167 Royce Carlton Incorporated: website host for James Burke's The Knowledgeweb Project http://www.roycecarlton.com/speakers/burke.html

interconnections that challenge reason. Burke's ability to connect history to our present situation is a prime example of hypermedia's conductive relevance. One of Burke's recent hypermedia projects is a interactive teaching tool called *KnowledgeWeb Project*, that can navigate in an on-line 3-dimensional journey made up of 2,500 world personalities that are interlinked in 20,000 ways. In this way hypermedia opens history to being reinterpreted in the present.

Artificial Media: Cinema

The Age of Communication[168] brought other ways of thinking about creative individuals who blur the lines between media, disciplines, methods and social study. Jonathan Crary [169]describes Edison's unique objective to his invention of the camera,

> One of the places where this particularly "modern" system of perceptual mutation can first be located is in the work of Thomas Edison. Edison stands not simply as a participant in the making of cinema but for a specific swerve that separates earlier nineteenth century techniques of display, exhibition, and attention from what would follow in the twentieth… For Edison, Cinema had no significance in itself – It was simplifying one of a potentially endless stream of ways in which a space of consumption and circulation could be dynamized, activated.[170]

Edison saw the market place in terms of how images, sound, energy, or information could be reshaped into measurable and distributable commodities, and how a social field of individual subjects could be arranged into increasingly

168 Compton's Interactive Encyclopedia 1996 SoftKey Multimedia Inc.

169 Johnathan Crary. Dr. Mabuse and Mr. Edison. "Hall of Mirrors: Art and Film Since 1945." Brougher, Kerry. Los Angels: Monacaelli Press, 1996. p. 266

170 Ibid. p. 266

separate and specialized units of consumption. The task of media for Edison was to generate production; however the end result of this production is that everyone can now own a camera. In an instant, anyone can create a picture. The photographic picture marks a kind of beginning and end to the issue of rendering by hand what could be achieved in a mechanical snap-shot. The more difficult skill of rendering images with oil paint took time and money. The camera as an instrument and a method allows anyone to take a picture that could be used for art, science, news and media. Edison's first movie camera was made in 1891 and quickly became a prime instrument in recording the history of merging nations into big cities, like New York. The photographer was there with a camera at the beginning of the twentieth century to witness and record the event of electricity, the light bulb, the Great World Expositions of the late nineteenth century and early twentieth century and the atrocities of world wars. In an odd way, the camera was capable of filming its own history and, as such, asserts the visual domain as a cognitive and reflective eye on the world.

Edison's understanding of the power of an image also had a political and economic significance that became a new means of effecting public opinion. The creations and inventions of the twentieth century challenged passivity and fostered a new age of attentiveness towards novelty. This swerve that Crary describes represents a kind of crossing that interrupts the conventional flow of perceiving and creates a new space for learning and creativity.

The camera as a creative instrument changes the art world and invents new art modalities: photography and cinematography are born. The picture and subsequent moving picture transformed the very nature of how we know and think about our world. The camera also becomes the instrument that transforms culture through media. This is a time where the creative space of cinema was explored by George Melies, D. W. Griffith, Fritz Lang, Jacob Riis and Sergei Eisenstein.

Defining the Medium of Hypermedia

What is the relationship between idea and materials? This chapter has considered the process of creativity as it encounters a variety of modalities that transform materials to medium, and from medium into media and lastly from media to hypermedia. We generate our experiences with a choice of **medium/media**[171] from the world in which we live (materials-at-hand). Further, we generate media through multiple modes of knowing (Heidegger, Gardner, Higgins) that make possible a choice of *medium*/*media:* words/poetry, paint/art, numbers/logic, emotions/body language, sound/music, movement/dance, economy/politics, film/photography and clay/architecture. As philosophical curators, we gather media and present expositions through hypermedia. Choosing a modality that fits our interest is our first priority as artists, teachers and learners. Knowing why we choose to communicate in one medium over another is rarely questioned but questioning it should be the first objective.

Education priorities in Western culture have had a bias towards limiting knowledge modalities to language-literacy and math-logic. The relationship between media and multiple learning modalities should be considered more carefully in any education program. How do systems of belief infringe on personal choice? Methods, hierarchies and systems of belief can frame learning in ways that restrict and limit our vital interest. Choosing a path must begin at an early age and be accompanied by an objective ethic that places responsibility next to emancipation so that the desire to learn is self-motivated. In the 21st century people read and write less and rely on electronic media more and more for their information. This conventionalized view rarely questions choices outside the range of *set defaults* or standards. A creative world seeks ways to open new

171 media n. pl. of medium

me·di·a (mē'dē e) n. def Latin medius, middle. 1. Anat. The middle coat of the wall of a blood or lymph vessel 2. [used by Priscian for L., littera media , intermediate letter; so named as medial between aspirates and tenues.] Phonet. Formerly a voiced stop. Media ancient kingdom in NW Iran: capitol, Ecbatana(It is interesting that definitions in a dictionary often have multiple interpretations based on various ways of knowing.)

possibilities: a heuristic method of inclusiveness instinctively generates media for noticing.

What is the future direction of media? Bio-media replicas, human cloning, organic machines are all realities in the twenty first century. How does media become an agent of life? Deciphering the human genome sequence of a Homo sapiens revealed the early development of our own cells that learned how to replicate better as a result of an invading virus (viruses are experts in cell replication). Scientists using DNA (as the latest media) have cloned animals and in many situations scientists have altered the DNA of plants to create new hybrids that have been transformed to be more adaptable. What does the future have in store for sublime creations, which may be stirred by memories of the strange world of Doctor Moreau? Terror or bliss.

What this may suggest is that we learn best for survival. Our bodies not only adapt they assimilate the process of our world. Insects and animals assimilate the patterns and textures of their surroundings. Is it a hunting method that creates a certain advantage; as life learners this may suggest that we situate ourselves in a medium that stimulates our assimilation. An associational curriculum would have to have the ability to stimulate hypermedia into a *hypertopia or a topistics mindscape*. The landscape of virtual reality already supplies the hyperspace for the placing and spacing in time within the medium of technology. The assimilated transmission of knowledge receives and sends simultaneously like the creative space of chora.

"Every creative act involves… a new innocence of perception,
liberated from the cataract of accepted belief"
– Arthur Koestler

3: The Spacing of Creativity

"Creativity represents a miraculous coming together of the uninhibited energy of the child with its apparent enemy, the sense of order imposed on the disciplined adult intelligence"

Norman Podhoretz

Creating the Space for Living

This chapter will start by hinting at a philosophical orientation of the creative space and its relationship to the process of lifelong learning. The power of educational systems to prepare individuals to creatively choose their own path towards fulfillment or to submissively follow instructions and orders from above requires a questioning of the process and methods of educational truth procedures.

What are the truth procedures in learning? Philosophy can trace a network of theories on the process and methods of knowledge acquisition. Often there are many different procedures for achieving the same objectives but how we come to a truth matters. Alain Badiou in his book Infinite Thought: Truth and the Return of Philosophy calls for a rethinking of the concept of truth. He argues that philosophy is prescribed with several conditions that can be said to be truth procedures. These types of truth procedures are science, art, politics and love. Badiou suggests that in each of these types of procedures truth unfolds through a modality of knowledge: science is understood most faithfully through the matheme; art proceeds through the poem; politics' method is emancipation; and love "more precisely, the procedure that makes truth out of the disjunction of sexuated positions."[172] How do we identify these truth procedures? It is through

172 Alain Badiou, Infinite Thought, p165

philosophy's seizure of the truth that resides in the difference between "(the style of argumentative exposition) and (the style of persuasive exposition). That is, we understood from the earlier chapters that we not only create something in our expression but it is presented in a certain way. Badiou defines:

> Philosophy, as discourse, thus organizes the superposition of a fiction of knowing and a fiction of art. In the void opened by the gap or interval of these two fictionings, philosophy seizes truths… philosophy declares that there are truths, and ensures they are seized by the 'there are'.[173]

What happens in this void for Badiou is a movement from one logic to another logic. This is where philosophy seizes truth. Badiou's truth procedure produces a "unity of thought" that is a "fiction of knowing" where philosophy imitates the logic of mathematics, a "*fiction of art*" that is represented in the poem, in the "*intensity of an act,"* that is like love without the object and it is like a "political strategy without the stakes of power. These 4 four procedures can be thought of as methods and modalities that become the measure of a truth procedure for all to proceed from that all may be within the seizure of the existence of truths."[174]

This is the real effect of truth process. It is thus necessary to explain what a logical transformation is when you move from one logic to another logic. Badiou suggests "that the logic of a situation of logic [school] is between classical logic and intuitionist logic." Again we see the thinking of Kant, at play. As such a truth is a transformation of the articulation of the multiplicity of the situation – its logic – and this transformation is linked to contingency, both of the event and the situation.[175]

173 Ibid. p. 165

174 Ibid. p. 165

175 Ibid. p. 165

What emerges here are three orders that must be considered: 1) that the space/medium is active and participating in the creative process 2) that being in the creative space is interactive and 3) that *becoming* occurs in the *medium* of the creative space, all towards the idea (intelligible) being made into actuality (sensible).

Gregory Ulmer considers Jacque Derrida in seeking a translation of Chora, the space of creation, who advises:

> If it must be attempted, such an experience or experiment (experience) is not only but a concern for a *word* or an atom of meaning but also for a whole topological texture, let us not yet call it a system, and for ways of approaching, in order to name them, the elements of this "topology.[176]

Before Derrida presents a translation of Chora he defines the conditions of Chora as belonging to "experience" which demands a reflective understanding and of "experiment" which is an active understanding. As such, he alludes to the interactive condition of reflection and action. Derrida continues:

> Whether they concern the word Chora itself (place, location, region, country) or what tradition calls figures - comparison, images, metaphors - proposed by Timaeus (mother, nurse, receptacle, imprint-barer), the translations remain caught in a network of interpretations.[177]

But perhaps it is in the dilemma of a search for interpretation that Derrida places on *doxa* or opinion that reveals the true nature of this creative interactive space of creation, in our desire to seek the creative space. Further, Derrida refers to the metaphorical texture that Plato uses in describing Chora and the difficulty of

176 Ulmer, Gregory L. Heuretics: The Logic of Invention. Baltimore and London: The Johns Hopkins University Press, 1994. P. 70

177 Ibid. 70

locating a meaningful word that embraces this ambiguity. Both of these analogies do however describe a *spatial* relationship that has contingent interactions. Or we could rethink the process of the creative space as a spacing of ideas over a network of experiences.

Learning as a Fiction of Knowing

Education theorists are more inclined to consider the cognitive, social, emotional and artistic development of students through exploration and discovery that yield new associations to a lived world (Kindler, Greene, Dewey). Learners need to be cognitively and physically present in a world that offers a range of mediations for life. Medium and media allow our intuition to construct a creative outcome. This associational relationship gives rise to art, which IS the creative process of learning and is evidenced not solely in a finished product but in a series of projects that can be assessed in a portfolio, journal, video or other examples of the ongoing process. Learning does not necessarily happen in the place of school, but more when the medium~media of a subject (past or present) communicates to the space of the world in which we live. What is the ethical responsibility of any education system in selecting a curriculum that addresses a diverse world population? What is truth in learning? What interferes with the creative space of learning? And what do we really desire as an outcome of education? John Dewey begins to answer some of these questions: “Education is a social process. Education is growth. Education is, not a preparation for life; education is life itself.” [178]

The terms *process* and *method* need to be defined more clearly. Although many dictionaries choose to interpret these terms as synonymous, there is a distinction that needs to be made. The contextual definition of the term *process* from the Greek term *prokope*, suggests ‘proceeding through the course of time

178 John Dewey quotes, http://www.wilderdom .com/experiential/JohnDeweyQuotes.html

with an effort, “a journey” or “progress,” so that learning is not seen as a finite product but rather as an ongoing journey of progress that is worked on. The term *method* on the other hand, derives from the Greek term “*methodos,”*[179] which means to ‘follow after,’ and more accurately describes a ‘procedure, system or mode of inquiry’ having ‘a predetermined outcome’ and therefore cannot be described as ‘a process of generation’ but as the use of ‘acquired information or “*technique.”*

An example of this distinction between ‘process’ and ‘method ‘ can be understood through an interview with jazz musician James Emery who talked about his process both as a composer and teacher of jazz music. Emery indicated a relationship between his creative process of improvisation and his method of developing skills and techniques. Emery’s thinking process considers the great musical “forms” created through history as a starting point for improvising his own expression. The gathering of these “forms,” says Emery, is a life long process; the forms that Emery speaks of are often comprised of historic “signature riffs” or phrases and passages (from music legends) that evoke a style, disposition or place. Emery choreographs improvisational expression from one musical form to the next. Each historical form becomes a unique method that requires unique skills and techniques that make up a palette of sounds and textures that become choices within his creative improvisational expression. Emery is clear in saying that his skills [method] are merely the vehicle for carrying his improvisational expression. As a teacher Emery’s own creative process is also a good example of an interdisciplinary pedagogy through his associational bridging of history with music.

Someone cannot be taught how to generate creative expression, only the “space of learning” can be created for that subject. In other words it can be said that the space of learning requires a place that is conducive to the subject of

179 The term method implies more of a specific means of doing something, while the term process merely suggests the action of proceeding.

investigation. To facilitate the learning of art one must go to the *space* of art (the museum or an artist's studio). To create the space for artistic communication, the place of the classroom must be transformed into an art studio by bringing in the medium of the art studio, by teaching art skills and encouraging expression and experimentation that is conducive to each student's unique style, personality or comfort level. Artistic communication is an act of creation that goes beyond the skills and method, and generates one's own expression.[180]

Creating a Political System of Learning

What is the objective of learning? To be a lifelong learner does not necessarily mean going to school or having to know something about education methodologies. It simply means to be present in the process of living. However, because educational systems have a profound influence on many lives it is necessary to consider their effect on outcomes. Are these outcomes decisive or do they emancipate?

The place where knowledge is acquired was once the classroom, but gradually it has shifted to a virtual place, the internet and is experienced at home or in the office as well as the classroom. What is the role of the teacher in this new age of information and technology? Is a teacher necessary when the internet provides more information than any one teacher could possess? The Greek philosopher Heraclites knew this well 2,500 years ago when he said, "Much learning does not teach understanding."[181] Does the teacher have the capacity to transform information into the understanding that Heraclites espouses? What motivates the synthesis of information into knowledge? The

180 The problem as defined in chapter one, is that the place of learning starting from early childhood has become over structured through mandated curriculum that is not student centered. Some of the causes of this condition are said to be; political agendas, out-of-touch educational administrators, unqualified teachers and disenfranchised students. Some suggest this problem is the difference between the haves and have-nots or the difference between private schooling and public schooling.

181 Hericitus quotes on line. (June 2004)

need is for a philosophy for life learning that addresses the diversity of the whole world. Some adjustments will be required to embrace new technologies brought about by the electronic age. We are seventy years into the Information Age and it is ironic that *information* no longer seems equivalent to *knowledge*. It is the task of philosophy, then, to challenge those practices that are satisfied with *learning-without-understanding* and instead put forth the concept of information as creative material to set mental powers into action.

The contrast in theory between Margaret Spellings No Child Left Behind law (2000-2005) and Ramon Cortines (1993-2000) presents two different objectives in education. Consider the difference between a “student centered” approach and an approach where information is disseminated from an authority. Consider the difference between “hands-on personal interaction” and “being lectured to.” The outcome of Cortines’ approach may also be described as a creative process because something new is generated along the way, as the subject of study becomes an expressive communication within a learning populus. Cortines’ approach to learning involves a variety of knowledge models that greatly resemble the Greek concept of *paideia*: Content/Basic Thinking, Bloom’s Taxonomy, Critical Thinking, Aesthetic Education and Creative Thinking models. These philosophical methods have been carefully developed over the centuries from Plato to the present.

Is it common for the government to support or control education? The original Department of Education was created in 1867 to help states develop more effective systems. The Smith-Hughes Act of 1917 focused on vocational training for high school students in agriculture, industrial and home economics. These programs helped the country fulfill a demand for trained labor. The 1944 GI Bill funded college for its veterans offering deferred tuition in any field of study. The Office of Education often catered to the needs of its citizens and made adjustments to its policies and goals that reflected the change and conditions of the times. The 1958 National Defense Education Act is the first comprehensive

Federal Education program that was stimulated by the Cold War. Incentives to learn technology, science, mathematics and foreign language were used to train students to be better able to defend their country. In the 1960-70's the Department of Education developed an equal access mission that concentrated on a variety of human rights issues, anti discrimination by race, gender and disability and aid to the disadvantaged. The content of this political history is from the U.S. Department of Education web site, but oddly the history ends after 1980. While the earlier history of the Department of Education appears to support the development of education as a support for *life skills*, the more current history suggests an agenda that trains individuals to be in service to the demands of political needs; war.

Hyperlink – History of Education from 1980 through 1999
1983- A Nation at Risk
1994- Contract with America

Developmental Methods for Modalities

How does learning evolve? Modern theorists have been aware for some time of the need for a pedagogy that understands the capacity for learning in specific modalities that are linked to cognitive and physical development (Vigotsky, Piaget, Dewey, Greene, Eisner). Methods for gaining knowledge remain age dependent throughout our life. Even after going through school we devise new ways of doing and thinking about our world and as we age we devise even more ways of admitting or rejecting the inevitable: death. The real test of a method or methods is in the fidelity between the "care" and "anxiety" of Heidegger's notion of creativity. The ancient Greeks had many words for describing a variety of methods for life learning, greatest among them, rhetoric.

Another Greek term for *process* is *oikononi* and refers to *giving directions*. Creating the space for learning at home may come naturally for many parents who navigate the process of facilitating language, speech, kinesthetic development and social behavior of their children, sometimes with the help of a parent, grandparent or a book. No parent goes to school to become a parent, but for better or worse, most parents teach their young for at least the first couple of years by their own devices. The creative space of learning at home would have to be defined by each individual who reads this. How much freedom did you have to explore and what did you discover?

From the age of two to four years, young children experience a creative process that the Greeks called *heurisk*' or *a heuristic* process. This is defined as a process that discovers, finds, gets for oneself, devises and invents. Pre-schools create the space of learning by using socialized learning centers with medium/media that favor a variety of learning modalities. Through play medium is used to explore and discover subject matter. Painting becomes art, books engage literacy, mixing and measuring sand involves logic and motor skills and computer games prepare for hypermedia. Pre–school methodologies largely favor a variety of modalities that let young learners explore and open their world through hands-on activities across multiple modalities (Kindler, Colbert, Greene).

In the best situations children at the age of five enter a more formalized education system. This may look like the Greek concept of *paideia* that literally translates "to urge on children" and refers to a broader *system* of training, coaching and instructing learners to communicate publicly about the value of our world. The optimism of elementary school creates a space for learning that is open to understanding the world. The world must be understood in two ways: that is, space/place. Place refers to the locus of perception (reflection) and space refers to the process of spacing (action) or choreographing one's places. While the term *paideia* was used to indicate *a process or system of education*, it needs to be stated that the outcome of this process according to Plato was to produce

the skills and techniques necessary for entering and participating in the fullness of the Greek culture. For Plato learning had little to do with preparing oneself for a job and more to do with preparation to enter Greek utopia.

Assessing the Gold Standard

At the age of eight years old young children enter the world of testing. Here the space of learning is a classroom that is mandated by law and that is administered by the U.S. Department of Education. The No Child Left Behind law requires going back to the "basics" of reading and mathematics, through the logic of scientific method or the "Gold Standard" of assessment. In her inauguration address, Spellings remarked on a number of striking dispositions of the NCLB law: learning is mandated; yearly progress is demanded; schools are penalized for poor test results; merit is measured by test scores; and the teacher disseminates information from above. Spellings' approach to education is to carry out a government mandated curriculum that requires teachers to train students to pass standardized tests.

How do we assess children's learning? The scientific method behind NCLB is not a learning process, but a form of assessment that seeks "strong evidence" [182] of learning through testing so that intervention can be prescribed. Robert Boruch, the principle designer of the assessment method that is mandated in NCLB presents the strategy in his book Evidence Matters: Randomized Trials in Education co-written with Fredrick Mosteller. In the December issue Yvonna S. Lincoln reviewed his book in *Academe*, and discloses some of the issues that are raised by his assessment method. At the heart of this matter is the question, what constitutes "objective knowledge about social life and the social world." [183] The obstacles begins between scientist and researchers who, on one side, maintain that research and evaluation projects

182 Evidence Matters: Randomized Trials in Education, Robert Boruch and Fredrick Mosteller. p. 2

183 Yvonna S. Lincoln. Book review. Evidence Matters: Randomized Trials in Education September-October 2005 Volume 91, Number 5.

may support multiple views of knowledge and multiple research strategies to obtain that knowledge. The NCLB method ONLY accepts evidence that provides objective knowledge through the assessment using these randomized field trials, "in which participants, in a natural, everyday context such as a school, are randomly assigned to receive different treatments or programs."[184]

The question of who gets the good treatment and who gets the bad treatment brings to mind the work of Giorgio Agamben who condemns the social contract that produces a "homo sacer" or "sacred man."[185] Agamben rethinks the translation of this ancient Roman enigma that is "…resonate with the religious category of the sacred when this category irrevocably loses its significance and comes to assume contradictory meaning."[186] The designation of "homo sacer" was given to a condemned man, who could not executed by the state. However any citizen could kill this man without legal ramifications. This situation, Agamben says has to do with the misguided interpretation of sovereignty that is suspended in a "state of exception," that is, instead of the killing of a man as being a *natural violence* it is displaced in a state of exception as a *sovereign violence*. This same misguided interpretation is being enacted through NCLB and the Department of Education in a *state of exception*. Here we can substitute "homo sacer" with *infans sacer* or *sacred child* who has failed the test under the law of NCLB's *gold standard* of assessment.

Lincoln suggests that NCLB's limited view of science has dire consequences for research in the social sciences because methodologies "such as phenomenological work and the work of critical theorists" are dismissed for funding, despite the claim of the 'philosophers' rejection of the possibility of genuine objectivity and the existence of multiple, sometimes conflicting,

184 Ibid.

185 Giorgio Agamben.Homo Sacer: Sovereign Power and Bare Life, 1988. In ancient Roman law "homo sacer" referred to someone who could be killed with impunity and whose death had, for the same reason, no sacrificial value. As a term denoting exclusion, it can be seen to apply to NCLB. p. 71

186 Ibid. p. 80

epistemologies." Lincoln also describes The National Research Council committee's directive to determine "what is science or what is not science" and dismisses postmodernist theories in spite of the contribution that several methodologies, rather than a single model, have on comprehending the complexities in a variety of social and educational contexts. NRC provides the guidance to the Scientific Research in Education defining what is in the domain and what is not, what gets funding or not and what is taught in the schools or not. Mosteller and Baruch's intent, says Lincoln, is to address a concern about "ideology parading as intellectual inquiry" placing "randomized experiments as the "gold standard" that "solves the problem of ideology, relevance and intelligibility of results." [187] However, sociologist Thomas Cook disagrees with the assumption being made by these authors because their "gold standard" for scientific research proceeds from a methodology that was developed as a medical, clinical and pharmacological model for drug testing of adults and agricultural applications, which does not guarantee its appropriateness as a methodology for education.

Lincoln ends her critique by stating that the worrisome aspect of this book is that their "research emanates from the federal government" which has usurped the roles of professional disciplinary committees, that in the past were made up of experts in the field. The effects of the NCLB method have effectively limited what is considered knowledge… to what a small band of federally approved reviewers say it is.

Looked at from the perspective of Lincoln's review, the methodology of the No Child Left Behind law can be seen as an intervention program that assesses students through *randomized field trials* that measure learning through the test. Critical of the narrow definition of what is determined ~~as~~ to be an expectable

187 Robert Boruch and Fredrick Mosteller. Evidence Matters: Randomized Trials in Education,. p. 3

method of knowledge, Lincoln sees qualitative assessment as a necessary and vital instrument for determining the outcome of education practice in general.[188]

Weapons of Mass Deception

The same demand that Heidegger places on the need to attack the bias of decisive influences on history is what Walter Benjamin understands as the need to attack the bias of culture in the present. Benjamin is critical of culture because it largely presents the ideas of the ruling class as a form to be emulated, usually at the expertise, toil and efforts of others. Benjamin criticizes the romanticism of intellectuals who mimic the proletariat culture: “In truth, it is far less a matter of making the creative person of bourgeois background into a master of ‘proletariat art’ than to deploying him. ”[189]

The power of the government to control education can only succeed as an act of emancipation. Knowledge and learning cannot be conceived as an end in itself but must truly open the potentiality of the learner through a means that fulfills his or her potential to be a free contributing citizen. When learning is forced into ideological standards there is displacement in the construction of event of truth, because knowledge-as-truth needs to be equivalent to the facts-as-truth. There is no politics of emancipation in restricting ideas to an ideology. Absolute persuasiveness is not the objective for our own ability to receive knowledge. Truth appears in spite of our own imperceptible trace of uncertainty in becoming. However, all media, as a form of expression and communication, can only be

188 For this author, it is the determined attitude of the NCLB law that allows only ONE model an assessment that judges what is to be considered knowledge that undoes 200 years of scientific and philosophical progress. NCLB’s own ideological mandates would dismiss philosophers and replace openness with mandates and restrictions. The postmodern philosophy of Derrida, Baudrillard, Badiou, Ronnel, Schirmacher and Ulmer, when subjected to the ‘gold standard’ assessment of NCLB’s absolute science are deemed “not science.” That the NCLB law uses its own form of (federal) science to assess and judge the world of science, which can only be described as creating a void in the space of learning and thus confronts us with the sublime.

189 “Surrealism” (1929), II, p.309

understood or learned as truth, through our own constructing of a fidelity to an event.

Those who control the media, however, shape their own kind of news event. Robert Morlino describes how the media influenced public opinion in 2004. The Fox Media Empire has a history of buying broadcasting stations in all the major cities of the world, going back to William Fox who owned his first stations in England during the 1890's. The Sinclair Broadcasting Company (owners of Fox Media) reaches 25% of all households in the US. In 1996 Sinclair created its own news channel and reporting staff that delivered its own content. Sinclair also contributed 89% of all contributions to the Republican Party from the years 1996 through mid-2004 (from The Center for Public Integrity).[190] The power that media wields over the world cannot be over estimated. What emerges in the twenty first century is a vast empire of media moguls who control the content. These large media corporations create their own political "fiction of knowing," however *news as truth* needs to be equivalent to the *facts as truth;* there is displacement in the construction of a fidelity to an event of truth. However, all media, as a form of communication, can only be understood as truth through our own constructing a fidelity to an event. Absolute persuasiveness is not the objective for our own ability to receive knowledge. There is no *politics of emancipation* in restricting ideas to an ideology that breeds fear and anxiety.

In interview with Ulrich Raulff,[191] Giorgio Agamben describes another paradigm that he sees used in the political arena today, that of the "State of Exception." This is a kind of procedure that in the past was used when a "state of emergency" was in effect, for a limited amount of time. Agamben says a historical transformation has occurred that makes the "State of Exception" a norm and

190 The Center for Public Integrity, October 21, 2004, p. 1-3
http://www.publicintegrity.org/telecom/analysis/CompanyProfile.aspx?

191 Raulff, Ulrich. "Interview with Giorgio Agamben – Life, A Work of Art Without an Author: The State of Exception, the Administration of Disorder and Private Life." German Law Journal No. 5 (May 1, 2004) URL: http://www.germanlawjournal.com/article.php?id=437

establishes a hidden but fundamental relationship between law and lawlessness. For Agamben this opens a void between liberty and security that tests democracy.

The Test Drives the Method

The rigor of the test is nothing new. Modern scientists since the days of Newton have tested their own theories by proof. Those theories are then tested by peers or experts in the field of study who review the facts and repeat the experiment to confer a truth in the process. And then those peer assessments are considered by professionals in the entire field of study. Consensus is very rare but a degree of reason remains.

According to Avital Ronell, we live in a world that has always been tested (Yahweh's testing of Abraham, Nietzsche's loyalty test, and Blanchot's "trail of experience"). Ronell calls attention to the German word *versuch* that unites *test* with temptation that frazzles the subject. Ronell is particular concerned about the continuous demand of testing and its history. "The devil is the visible mark of a permanent testing apparatus,"[192] she says and is historically marked by the *experimentation* of Nazi Germany. Ronell cites Nietzsche who understood "the concentration camp as the most unrestricted experimental laboratory in modern history, a part of the will to scientific knowledge."[193] This kind of *test* that fails to recognize its subject, in pursuit of knowledge, must be checked by an ethic that considers what it means for humanity. Ronell describes the urgency and concern that Hegel and Husserl sought to address, "not the scientific character of sciences but rather what they, or what science in general [including scholarship], had meant and could mean for human existence."[194]

192 Ronell, Avital. Test Drive. Urbana and Chicago: University of Illinois Press, 2005. p. 6

193 Ibid. p. 6

194 Ibid. p. 5

What kind of objectives would prepare a student to prosper in life in the year 2005. What skills would become useful in the future? How would these techniques be used as a means of communicating more effectively? What kind of future world do you see before you? Is it simple or complex? How do you create a place that is most conducive for future learning to thrive? What kind of goals should a Federal Department of Education have for its citizens? Ronnel agues that any time the government is involved in testing, screening, standardizing and intelligence there is a "selective invention of stupidity" that involves a "social rigging." All that these assessments accomplish is to label certain students as "stupid' and "deficient." While the objectives of the NCLB claim accountability for learning, its methods fail through the test and reduce the learner to an object. What kind of methods would encourage creative learning and what is the measure of a more open approach to learning?

The demand for "excellence" was questioned by Christopher Fynsk who was interviewed on the *Culture Machine* web site. He commented on the appeal to *excellence* in academia "as a kind of pseudo-foundation, a simulacrum of self-identification that could be discarded and replaced at any moment."[195] Fynsk attacks the philosophy associated with the notion of "excellence" as an artificial ideal, without doubt and without choice. Fynsk regards this term as a corporate slogan, and suggests that:

> 'Excellence' is nothing but a place holder for an earlier self-grounding claim to a civic function or a role in *Bildung* whose structure does indeed call for a reference to the metaphysics of subjectivity and humanism.[196]

195 Christopher Fynsk, Interview, The claim of the humanities: A dialogue between Simon Morgan Wortham and Christopher Fynsk. http://culturemachine.tees.ac.uk/reviews/rev46.htm p. 4

196 Ibid. p. 6

Education systems have taken on this corporate identity with excellence which Fynsk acknowledges by adding, “Excellence is a delicate state of being; it must be continually recreated.”

There is another idea brought to this interview by means of the writing of Sam Weber who considers a generative side to doubt. He writes,

> Excellence…divests itself of all “content” in order thereby to demarcate its own self-identity, henceforth to be determined in nothing but *the process of representing as such*, which is to say, in the process of ‘doubting’ as opposed to the determination of that which is doubted.[197]

The former refers to the kind of disposition of the *test* and later refers more to the exploratory process of the arts. Weber continues, “As its name suggests, ‘doubting’ is duplicitous. It doubles and splits itself off from what it doubts and, in so doing, establishes a purely formal relation to its own ‘performance.’”[198] For Weber “doubt” in its “splitting” behaves as a type of action/reflection: the simultaneous sending and receiving constructs a new fidelity to this event.

The philosophy of a learning system should be in the measure of its ability to create and recreate knowledge through interplay of doubt and reason. Wolfgang Schirmacher takes this notion a step further by pressing “doubt” with “failure.” He contends that “it is the FREEDOM of “failure” that allows ART to change us (and the world).”[199] Adding to the argument, Klaus Ottmann identifies “failure's” place in the postmodern condition and suggests, “Only a decision unto failure is a postmodern decision, as failure is immanent in the definition of the

197 Ibid. p. 4

198 Ibid. p. 4

199 from e-mail correspondence.

postmodern. Otherwise it would be modern or anti-modern."[200]

The Dubious Duplex

Methods are like a ***duplex*** system. A *duplex* refers to a *house* divided into two apartments or a duplex can refer to a single system that channels multiple communications through a single conduit. Some methods act like a duplex where an authority above gives instructions to those below. Other methods act like a duplex system by opening communication channels that share the same event. Every method has its agenda and limits that express a dialectic point of view. The spacing of these two perspectives is another way of thinking of the creative space of learning.

Badiou indicates that philosophy has geographic orientations that imply the space of learning is conditioned by locality. In Badiou's summary of current philosophy he states that these **three philosophical orientations** correspond to three geographic locations, each having its own school of thought: The hermeneutic, the analytic and the postmodern.

The hermeneutic orientation, also called the German School, aims to undo the *open* and *closed* givens of the world through interpretation, but this vocation has largely favored a devotion to openness and is at odds with philosophy. This devotion develops an unrealistic 'positivists' agenda.[201] This orientation was founded by Hans-Georg Gadamer and can be traced through Friedrich Schliermacher, Wilhelm Dilthey and Martin Heidegger. According to Schirmacher, "hermeneutics deals mainly with the unavoidable limits of our world view." [202] Schirmacher contends that we are both enlightened and limited by the language and history of world. What hermeneutics brings to education is the

200 Ottmann, Klaus. The Genius Decision. EGS, Press. 2004. p. 159

201 Badiou, Alain. Infinite Thought: Truth and the Return to Philosophy. New York: Continuum. 1998. p. 43

202 Wolfgang Schimacher form notes.

power of describing our placement in a lived world, but at a price of limiting "the horizon of the individual." (Schirmacher, from notes) The question becomes, how can interpretation attend to both the open and closed nature of givens?

The analytic orientation aims to define the rules that state the truth or fallacy of any statement. Here, Badiou describes that "the task of analytic philosophy is to discover the **rules** that assure an agreement about meaning," that is guaranteed by the rules of language, by isolating that which does not have meaning.[203] This style of thinking relates to the Austrian School and describes the system of logic that is prevalently used in the Western educational system where rubrics and tests make up the system. Richard Rorty contends that analytic philosophy has not lived up to expectations.

> By giving up the quest for apodicticity [a quest for the absolute] and finality…and by finding new reasons for thinking that the quest will never succeed, it leads us past scientism, just as the German idealists cleared a path that led us around empiricism.[204]

Rorty concludes by suggesting that the methods of knowledge are always undone by the limits set on each succeeding mode and that someday we might find something complimentary about each method.

Philosophy is also like a *duplex* system of communication where messages can be sent simultaneously in opposite directions over a single circuit. Postmodernism philosophy seeks to deconstruct the idea of totality and by doing so calls into question many of the great constructions of the nineteenth century that do not consider the plurality of thought and action of a diverse world. Postmodern philosophy suggests that this multiplicity cannot be captured in a

203 Badiou, Alain. Infinite Thought: Truth and the Return to Philosophy. New York: Continuum. 1998. p. 43

204 Rorty, Richard. Analytic Philosophy and Transformative Philosophy. Stanford University: <http://www.stanford.edu/~rorty/analytictrans.htm> , November 10, 1999

totalized idea. Jacque Derrida, Jacque Lacan, Baudrillard and Jon Luc-Nancy are those French philosophers who have largely defined postmodern thinking. These philosophers challenged the logic of any singular truth by deconstructing language in a world that is open to multiple cultures, experiences and interpretations. The post-modern condition identifies with the multiplicity of thinking by realizing the limit of language as it collaborates with other art media. Badiou suggests that the inclusive process of postmodernism destabilized the very nature of philosophy which:

> **. . .** might be called mixed practices, de-totalized practices or impure thinking practices. It situates thought on the outskirts, in areas that cannot be circumscribed, In particular it installs philosophical thought at the periphery of art, and proposes an untotalizable mixture of the conceptual method of philosophy and the sense oriented enterprise of art.[205]

But the most enduring attributes of postmodernism might be its openness to contingencies. Which method is most appropriate for learning? [206] Heidegger suggests:

> . . . method is based on viewing in advance in an appropriate way the basic constitution of the 'object' to be disclosed, or of the domain within which the object lies. Thus any genuinely methodical consideration- which is to be distinguished from empty discussions of technique- must likewise give information about the kind of Being of the entity which has been taken as our theme.[207]

How does truth survive the multiplicity of a world of people with different beliefs? At best, method takes us up to a limit. In the previous chapters it was

205 Ibid. p. 44

206 Martin Heidegger, Being and Time. H152)

207 Ibid. H-303

discussed that creativity in the process goes beyond method only at the point where some new synthesis of understanding generates one's own expressive communication that reveals the application of methods. The outcome of this is a concept of truth. This outcome of truth must not be mistaken for an ideological *positivism* because everyone makes mistakes. Joshua Micha Marshall[208] contends that a deception is inherent in everyone.[209] There is then a need for an ethic of self-assessment and a test for those who write the test.

Constructing a Fidelity to an Event

How is a learning space/place created? Alain Badiou calls for a rethinking of the concept of truth. For Badiou, sensing the distinction between *truth* and *knowledge* is essential. Kant understood this as the distinction between *reason* and *understanding* and Heidegger saw this distinction as between *truth* (aletheia) and *science (techne)*. Badiou suggests that the essence of truth remains inaccessible through the analytic tradition. However, it is just at this juncture where science discovers the limitations of its own methods, that faith-based organizations claim that the truth lies in "intelligent design." "Intelligent design" is a theory that states life is too complex to be explained by evolution and therefore must have been created by an absolute designer (God). The co-opting of truth procedures by faith-based science is not enough to convince any critical thinker. The lack of any evidence raises ethical questions in regard to what truth is law. Badiou would suggest another means of constructing truth:

208 Joshua Micha Marshall, The Post-Modern President. "Deception, Denial, and relativism: what the Bush administration learned from the French." Washington: The Washington Monthly. 2003. p. 1-10 http://washingtonmonthly.com/features/2003/0309.marshall.html

209 Are these mistakes or are these cover-ups: Nixon's, Watergate, Reagan's, Contra's and Clintons, Monica. The current administration confidently expresses a variety of undisprovable assertions: intelligent design, WMD's, birth control and a variety of faith-based convictions that cannot be called science.

> We must conceive of a truth both as the construction of a fidelity to an event, and as the generic potency of a transformation of a domain of knowledge.[210]

Badiou's *fidelity* is more like the Greek word *pistoo* ("to be made trustworthy") and suggests that the term *fidelity* is an *achieved process*, as apposed to an ideology *given* without questioning or an act of *blind faith*. Truth is something that requires the diligence of effort to understand and the thinking behind the process of truth-building assures this fidelity. However there is a negative effect of trying to construct this truth:

> All categories by which the essence of a truth can be submitted to thought are negative: undecidability, indiscernibility, the generic not-all, and the unnamable. The ethic of truths resides entirely in the measure taken of this negative, or in other words, in the limitations placed on the potency of truth by the hazards of its construction.[211]

One of the ways to handle these negatives is, as Heidegger understood, is to remove any phenomenon of the truth from the proposition: "In becoming a property of the proposition, not only does truth displace its locus; it transforms its essence."[212] The effect of this process is, "A language that is related, not to things already presented, but to things which have not yet arrived."[213] For Heidegger this comes in the form of a poem, for Nietzsche in the form of music, and for Badiou in the form of art. It is the medium of language itself that may be the problem.

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210 Badiou, Alain. Infinite Thought: Truth and the Return to Philosophy. New York: Continuum. 1998. p. 5

211 Ibid. p. 58

212 Martin Heidegger, Being and Time. H152)

213 Badiou, Alain. Infinite Thought: Truth and the Return to Philosophy. New York: Continuum. 1998. p. 60

A Language for What Has Yet to Come

The uncertainty of describing human experience in words can be seen as a part of a condition that William Carlos Williams [214] speaks of, “Now I am not what I was when the word was forming to say what I am.”[215] (The condition, of always becoming must be considered as something about to be given. It is necessary to recognize the uncertainty that accompanies our understanding. The ethical test of reason may be as simple as *sensing* while *thinking, or asking;* how does this idea feel? How does reflection create an awareness of this process of accumulating experiences? How does process construct meanings? How does a period of activity and production interface with reflection and what are some criteria for evaluation? Deconstructionists pose the problem as a void that is created in language as it is over analyzed. Walter Benjamin hints at a suggestion to shift knowledge modalities,

> Only images in the mind vitalize the will. The mere word, by contrast, at most inflames it, to leave it smoldering, blasted. There is no intact will without exact pictorial imagination. No imagination without innervations.[216]

The Art of Active Reflection

Aesthetic Education since the early 70’s has placed philosophy at the center of its pedagogy. Immanuel Kant, John Dewey, Elliott Eisner and Maxine Greene have all spoken of the relationship that the arts create between reason and imagination. A*esthetic reflection* sets mental powers into action by the medium/media of the work of art. As a space/place of learning, aesthetic

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214 William Carlos Williams. Imaginations. from The Great American Novel, It is William’s distrust of words as carriers of meaning that makes him so important, as he engages all the senses towards a place of understanding.

215 Ibid. 158

216 Benjamin, Walter (1892-1940). Reflection: Essays, Aphorisms, Autobiographical Writings. “One-way Street." New York: Harcourt Brace Jovanovich, 1978. p. 75

education may provide a more philosophically diverse process that opens new associations between concepts and artistic methods through a close study of a work of art. Action and reflection, through art activities and inquiry, focus both on the thinking process and the technique process in a way that clarifies multiple potentiality in the work of art**,** allowing new associations to be made between the elements that make up the language and the way different dispositions create meaning. This is a *process* where *imagination* and *method* are in the "*fidelity*" of a shared event.

When Socrates [217] says "the life, unreflected, is not worth living," what does that suggest about life in early Greece? The pedagogical test of process can be traced by reflection of portfolios, logs, diaries, anthologies, databases, etc. The work of art provides the medium and contextual media for reason and imagination to consider. Skill and knowledge become vehicles that open a space for learning. The question of how we measure learning in a system where there are so many unknowns would also then require that a certain amount of life would have to be lived before reflection and evaluation could begin. When Schirmacher[218] says, "Get a life, then get a philosophy," he suggests that theory comes out of life and not the other way around.

Imaginations Method: The Beautiful and the Sublime

What is the space of creative learning? Our imagination plays with the elements of the artworks which draw us in. Immanuel Kant in his book Critique of Pure Reason first theorized that the faculty of the *imagination* is responsible for forming concepts to be considered for knowledge.[219] Kant's placement of

217 Socrates

218 Wolfgang Schirmacher,s comments on life before philosophy suggests a belief in action and experience as a requirement before a reflective philosophy can be considered.

219 Kant, Immanuel. Critique of Pure Reason. Unabridged, Ed. Norman Kemp Smith. New York: St Martin's Press. 1929 (written1769-1780. B 102-04

imagination as a power to form understanding of content also describes the creative process of the arts as something generated from media, created by the imagination. As such, aesthetic reflection in the arts offers a twofold method of determining understanding: aesthetic reflection of the beautiful and the sublime. The beautiful reveals on the basis of interpretation that perception becomes an act that makes things determinate[220] and ultimately undecidable as truth. Badiou continues,

> Because the feeling of the beautiful results from a form, which is a limitation, its affinity lies with understanding… Because the sublime feeling can be generated by a without-form, it lies with reason.[221]

The difference between the beautiful and the sublime "is linked to the difference between the limited character of the object and the without-limit of the object…It is the limit itself that understanding cannot conceive of as its object." This is not just a difference between reason and understanding but the limit is its method: "all categories of understanding are the operators of determination, that is, limitation (or failure).

However, Lyotard goes further to say that this limit is not an object for understanding but a method for determining understanding.[222] This method of determining understanding involves "the heuristic power of reflection," says Lyotard and is particularly useful for noticing the materials that set mental powers into motion."[223]

Traditionally, the sublime was experienced in nature: the vastness of the ocean or the night sky often evoke the sublime. In architecture, the Pyramids of

220 Heidegger, Martin. Being and Time. New York: Harper & Row, Publisher, 1962. H-62

221 Badiou, Alain. Infinite Thought: Truth and the Return to Philosophy. New York: Continuum. 1998. p. 58

222 Lyotard, Jean-François. Lessons on the Analytic of the Sublime, Stanford: Stanford University Press. 1994

223 Badiou, Alain. Infinite Thought: Truth and the Return to Philosophy. New York: Continuum. 1998. p. 62-63

Giza are said to evoke the feeling of the sublime. Often the sublime appears in dreams.

Bruce Chatwin considers the ancient ritual created by the Australian Aboriginals in his book Songlines.[224] This ritual, known by the Aborigines as the *Dreaming*, can be seen as a historical pedagogy that involves walking the migration paths of their ancestors. The *Dreaming* is rooted in the legacy of the primordial ancestors who roamed the land. Every step of the migration has a verse in the *Dreaming* that records the knowledge of the place and content of a location through the landscape. The *Dreaming* also serve as hypermedia in that the objects in each locality act as maps, icons or symbols for learning. In a very real way these Australians carry the knowledge of their world in every step they take. The language of their knowledge is deposited in a footstep that is accompanied by a line of song. As such, the *Dreaming* describe a process that requires an awareness of place that has an association to an ancestral site. Knowledge was held within the *place* (chora) with an outcome for learning the ways of their culture. The *Dreaming* is not choreographed, as Westerners would write notes on an eight bar music scale, but rather the subject of the song is revealed in the passage through their ancient migration route. The *Dreaming* also reveals an interdisciplinary method that combines music, geography, ecology, social beliefs and oral history that are understood as making a up a network of site specific places of knowledge. This knowledge of the *Dreaming* is captured in a carving called a *tjuringa*, a carved wood or stone plaque that is covered with patterns representing the wanderings of the owner's Dreamtime Ancestor. *Dreaming* as a *method*, teaches those present how to notice in their own world the ways of their ancestors.[225]

E. V. Walter calls the Aboriginals' Dreaming a topistics consciousness that constructs a relation between topic and space:

224 Chatwin, Bruce. The Songlines. New York: Viking Press, 1987. p. 43

225 Ibid. p. 43

> . . . for the Aboriginals, physical nature is a domain of located experience. Moreover, the dramatic history of the ancestral spirits--the great mythic persons of the dreaming-- is also the grand design for nature, society and place, all contained within a spiritual-physical unity. The Aborigines cannot separate their way of feeling from their way of thinking about places. The Dreaming, like Plato's open-eyed dream vision of chora, grasps the nature of place holistically as a unified location of forms, powers, and feelings.[226]

The Dreaming of the Aboriginals may contain a clue for the rethinking of the creative space of learning. Walter suggests that this, "Haptic [grasping] perception reminds us that the whole self may grasp reality without seeing, hearing or thinking. It calls attention to a primitive way of knowing that resembles mythical thought, in contrast to the analytical stages of seeing, thinking, and acting-- a unified structure of feeling and doing."[227] Walter suggests that the Australian aboriginals are one of the few remaining examples of topistics unity and that perhaps, exploring the "…roots of renewal may be nourished by a restitution of decayed intelligence."[228]

The Method of Situated Place

What kinds of places are conducive to building a creative life? If we are to consider process as the measure of the creative space then it is necessary to consider an inquiry of the terms *space (chora)* and *place (topos)*. Gregory Ulmer cites a variety of sources who have dealt with the understanding of this association between *topos* and *chora.* He continues, "Derrida's effort to extract *chora* from the tradition of Platonism is shared by E. V. Walter, who distinguishes

226 E.V. Walter. Placeways: A Theory of the Human Environment. Chapel Hill and London: The University of North Carolina Press, 1988. p. 138

227 Ibid. p. 135

228 Ibid. p. 141

it from *topos* by noting that the former term names a 'grounded' mode of thought that was available in Plato but has been buried." [229] What was going on in Greece at the time of Plato that required a new distinction in defining a difference between place and space?

One can begin to see how science in Greece, after Plato, began to change its way of gaining knowledge to an analytic method based on a collection of common topoi or places that became the focus of a subject or topic of discussion. The concept of *topos* referred to a grounded way of thinking of a determined place that formed the rules of science which could be measured, while *chora,* which describes the *spacing or choreography* of everything that is to take place, becomes a neutral vehicle. Walter continues, "rather the task is to rethink the association of invention with place before "place" was split into *topos* and *chora.*"[230] This fusing of chora and topos may be thought of as a time when "place" became so infused with content that "place" became a symbol or icon that represented something beyond its medium. Walter's desire is to restore an association between topos as topic and place fused by the transactional interplay of choreography. This is the same kind of association that Kant brings to the process of intuition, imagination, reason and reflection. Derrida also rethinks a new space-time communication that finds fulfillment in the saturation of associations. Walter also suggests that this early Greek understanding of *chora* was frequently associated to a sacred place. Ulmer's interest in this aspect of chora is to establish a creative method for hypermedia, based on the rethinking of chora. Walter anticipates the possibility of a hyper-rhetoric in which the places of invention are figured not as *topoi* but as *chora.* Grounded Platonism, according to E. V. Walter:

229 Ulmer, Gregory L. Heuretics: The Logic of Invention. Baltimore and London: The Johns Hopkins University Press, 1994. p. 70

230 Gregory Ulmer, Heuretics: The Logic of Invention. p. 70

> … would rely less on mathematical rationalizations and more on the topistics of expressive intuitions: a haptic rather than analytic mode of thought. Topistics replaces problems, arguments, solutions with a choral 'dream reasoning' of riddles. A place is experienced wholistically as a riddle understood in terms of a *ker*, ghost, or bogey associated with the energy of space as an active receptacle…[231]

Becoming occurs in the medium of the creative space, all towards the idea (intelligible) that is made into actuality (sensible). Is this the new kind of being that Plato describes, the *receptacle* that nurtures generation? If so, then in being the one who facilitates another's possibility, one chooses to become the medium for another. The space of creativity is the process that is being nurtured by an imperceptible facilitator. Viewed in the present day light of stem cell research, it is interesting to see that Plato describes a womb-like place for generation. This can be likened to a stem cell that can replicate any gene with the right genetic prompting. This is a place of phusis, where growth becomes spontaneous. In this way perhaps the proper medium allows someone to become. Young children have an imaginative capacity to reshape their image of the world into varied and imaginative constructions.

The Dreaming of the Australian Aboriginals may be compared to Christo's *Gates in Central Park*. The *art*work presents a topistics method that creates the space for learning, through its experiential dimension. The *Gates* are like the *Songlines* in that they are understood as a place for a stroll, a mediated space that is chora. The installation was designed as a series of objects that cause the viewer to experience and walk in real time through and around the art/park. The choice of a gate as a metaphor of passage might at first imply a sense of *keeping out*, or *locking in*. However, Christo choreographs people's movements through his placement of individual gates that provide a network of "archways of passage," encouraging a flow from place to place. This makes possible a

231 Ibid. 70

process of experiencing through time, the space and place of the art and park. The art experience becomes a series of places along the journey through the artwork that evokes different interpretations of each local place along the way (like the Aboriginal Dreaming). The *Gates in Central Park* actually force an awareness of the park, its curvy paths, its layers of concentric pathways and its rarely explored corners. In a very real way the work of art, made of PVC, nylon and steel seemed consciously chosen for its industrial, mundane characteristics. However the situated placement and spacing of these units communicate a desire to flow along their physical placements and at the same time encourage a new awareness of our everyday world. This calls attention to a topistic method that designs associational relationships that are not bound by framed ideology but rather start with a medium which creates a spacing of media that reawakens an active place (chora). This enables to occur a process of *placing* and *spacing* oneself along the web of paths where choosing one's direction yields a new association of space/place. The method of the *Gates* could be described as a physical action experienced as an analog hypermediation in space time. A conceptual method unfolds by constructing associational relationships with each new placement within the space/place. This presentation of *The Gates in Central Park*, reveals a process that actively moves its viewers through a pathway that leads into a participatory journey of discovery. This process suggests a pedagogical question that relates to the early question in Chapter One about defining creativity in the process of learning. How do students carry their learning through their life? If Christo is capable of creating the space for New Yorkers to take a long walk through Central Park in February and have an aesthetic experience, then how can teachers create a place/space that transforms the classroom into a work of art? Here the medium/media becomes the subject of study that allows for choices that do not end in an answer, but awaken new associations to one’s own world and time through a continuation of discoveries.

Virtual Politics: The World Wide Web

Are we “rethinking” ourselves as a result of using electronic media? If so, then communication and literacy may be undergoing a change too. The *space of learning* for the next generation occurs in a virtual classroom where the world is noticed in real-time through a *gateway* called the Internet. Electronic technologies require new methods and new ways of considering the world. The method for learning through computers and the Internet is called hyper-mediation. Clicking on web pages, downloading music, checking on-line grades, responding to e-mails, blogging friends and answering instant Messages are types of hypermedia that require knowledge of a variety of methods to use. Often these skills are learned and attained prior to acquiring language, through playing games on a computer. At other times these skills are learned by watching others at home. New technologies supply the product and the process for communication. In *hypermedia* the objective of hyper-communication is to make associations across a network of domains or users. The saturation of ideas described in Chapters One and Two suggests that creativity is a process of discovering associational relationships (within the interplay of care and doubt) with our world, that yield some new communication through media by action, transaction or reflective action. When intuition is in action, the choice of medium is transformed into a concept of media. This also compares with the notion of selecting the right materials for the job. For the attentive mind, a *transactional understanding* of media happens by noticing new relationships between the imagined world and the sensed world; this gives rise to discovering new ideas, problem solving, satisfying curiosity, quenching an intellectual desire and most importantly, creating one’s own meaning. In matters of reflection, philosophy critiques the present condition by attacking the bias of history through multiple perspectives so that a new awareness is attained.

How can art media open a space for learning that creates a unity of thought? Badiou suggests through the interplay of politics, art, science and love.

Philosophy continually reflects back on life. In 1987, Jean Baudrillard described another possibility for the ways we think about the barrage of information we encounter everyday. In The Ecstasy of Communication he suggests another reality:

> Not into nothingness, but… what if the modern universe of communication, of hyper-communication, had plunged us, not into the senseless, but into a tremendous saturation of meaning entirely consumed by its success – without the game, the secret or distance.[232]

This kind of being in the present is just the kind of experience that is required for the lifelong learner who contributes something to the world we live in. Keep in mind this is the kind of relationship Gadamer constructs between the *speaker* and the *partner*, that defines the process of communication. This is to suggest an associational, conversational or transactional nature of place/medium and the choral inter-mediation of the creative process of composing. Baudrillard reconfigures the process of thinking through media, much like Peter Greenaway who fulfills our sense and imagination, through his performances where multiple layers of film screens create a space for dancers, actors and musicians.

Testing The Fidelity of the Event: Aesthetic Reflection and the Sublime

How can art curate a world of possibilities for learning? The pathway to knowledge that was founded by the early Greeks was situated in science and logic as the prime source of truth. But Schirmacher says it is Heidegger who "voices a suspicion, pressing it into a certainty that leads to the crux of our present problem."[233] Schirmacher continues by saying that it is Heidegger who

232 Jean Baudrillard. In The Ecstasy of Communication. p.103

233 Wolfgang Schirmacher, Eco-Sophia, p126

succinctly puts the cause on the *enframing* of modern technology. Heidegger describes this condition in *The Danger*, his lecture from 1949: “Enframing: the gathering together of the setting-upon in the sense of entrapping and ordering.” Schirmacher continues, “The ubiquitous machinery of technology and the scientific standards mutually secure their stock of nature, their “standing reserve,” and have unceremoniously standardized human beings as well as things, reducing them to calculative terms.” The philosophy of the current system of education fails the test by its standardizing methods that do not generate knowledge only a vacant artificial excellence. In the words of Schirmacher this condition is called “artificial life.” As the only life we know, we proceed with a simple shift in thinking, some imperceptible unfolding like Schirmacher’s understanding of a fulfilled self,

> Missing a note, fading away, overcoming, blurring and ‘letting be’ are imperceptible perceptions in which the *art* as well as the *artificiality* of our culture work together at their most intense level and generate an “innocence of becoming.[234]

How much freedom is in the creative space of democracy, education, business, art? Only through ones own decision to act. How does a philosophy frame issues about creativity and learning? As aesthetic reflection, Kant suggested our senses provide the medium for our reason to construct knowledge. Jean-Luc Nancy suggests that, “Sense makes sense only in the space of philosophy as it ends by opening up the world.” What does it mean to open up the world? This is also what Raymond Cortines calls for through an interactive process that opens students to a larger world.

The task of learning can then be said, to seek new associations for individuals to pursue there own becoming. The place of learning for Albert

234 Schirmacher, Wolfgang. “Eco-Sophia: The Artist of Life.” Research in Philosophy and Technology 9: Ethics and Technology. Ed. Carl Mitcham. Greenwich/London: JAI Press, 1989. p. 126

Einstein, Henri Poincaire and Henrdrick Lorentz was a personal space, somewhere between thinking and intuition, that led each of these learners to construct the infamous theory of relativity, each through there own unique situated position.[235] What caused these men to search and learn is not limited to what happened in their schooling but more about their imaginations putting into play their expression of an idea into a community of ideas.

Jean-François Lyotard compares the sublime and taste through the production of the work of art. He concludes by summarizing a synthesis of Immanuel Kant and Edmund Burke;

> Genius is thus declared to consist in a "happy relation"[236]… in the sense that we speak of… the joy of hitting on "the expression"[237] that is suited to find out ideas [by imagination] for a given concept [by reason]... [that] may be communicated to others." [238] At best a learning community emerges, not necessarily in agreement or disagreement, but an agreement between reason and intuition to becoming.[239]

Klaus Ottmann considers this as an aesthetic decision, citing Jean-Luc Nancy, "philosophy and its freedom do not coincide in a subjective presence and that every philosophical decision… is delivered to itself by something that, unknown to it, has already been raised into thinking… Thinking [i.e., aesthetic decision] does not appear to it self in a subject, but receives (itself) from a freedom that is not present to it." Ottmann describes another kind of autonomous art… that only represents itself as *itself*.

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235 Stephen Hawking, A Brief History of Time, p. 20

236 Edmund Burke, " The more deeply we penetrate into the labyrinth of art, the further we find ourselves from those ends for which we entered it." (A Vindication of Natural Society, 1756)

237 Edmund Burke

238 Jean-François Lyotard, Lessons on the Analytic of the Sublime, p. 60

239 Originally I wrote 'behave' instead of 'becoming'.

We can set ourselves up for creativity by constructing a space in the medium that is conducive to our Becoming (the creative space). Creativity requires the freedom to make choices (free of decisiveness) that affect an outcome, where new relationships unfold and open unexpected possibilities. This is often difficult for teachers who want to predict the outcome of lessons rather letting students seek their own path. This kind of exploration allows individuals to construct their own meaning. When students reflect on their own generated actions they identify with their own place in a self-constructed world. Communicating the experience of being is a politically creative act that emancipates knowledge. Creativity lets ideas emerge. Creativity happens in the event of our own becoming.

Vision shows forth more than itself,
Merleau-Ponty

4. Conclusions

The Unknown: Hypermediating the Sublime

The argument of this thesis has laid out a series of expositions that present a philosophy for life learning that considers the creative process associated with the arts as a space for learning. This haptic process is understood as the aesthetic reflection of the beautiful and the sublime. Within the creative process, media is generated as a result of a decision to act on a choice of medium that receives an image, sound, word or idea. The generated work of art can be understood through aesthetic reflection. Reflection on a work of art involves noticing unexpected associations within the elements of the art. Aesthetic reflection of beauty is derived from our sense of taste or judgment, and develops from an early phase of describing likes and dislikes found in the work of art. A more developed phase of reflection of a work of art develops a more curatorial interpretation that plays with multiple meanings.

Aesthetic reflection of the sublime, on the other hand, describes a void that forces a seizure of both sense and reason. This marks the spot where learning begins. The learning process happens in the event of the sublime through an act of reflection. The act of learning occurs as an act, in a spontaneous action-reflection to an awakened discovery. The word sublime in ancient Greek is *agnos* and translates to a situation where the senses fluctuate between passive and active. We approach the sublime, as an *agnos infans* or *quivering infant* whose ideal image of the world is shattered by the sublime: sense and reason fail to know. There is nothing for intuition to give to reason for synthesis and there is nothing for reason to reflect on that would suggest any similar event for reason to compare. As an act of creation the sublime is the creative space for generating learning. Because of the seizure of sense and reason the first action that precedes the sublime experience reveals a subliminal

reaction in the face of the unknown, the first step towards knowing.

Questioning Questions

What kinds of methods emancipate life learning? Multiple lines of inquiry have directed this thesis so that the arts, education, history, science and philosophy may be layered and combined in a post modern way and map a trajectory into the future. How we form philosophical questions that open possibilities is of critical importance. Questions have long been the starting point for science, philosophy and the arts as a source for penetrating the unknown. The distress occurs when faith based questions (ideal, absolute, etc.), that cannot be answered by empirical investigation, are presented as facts. The shift during the late 20th century from mysteries of faith to faith as intelligent design is such a case of co-opting empirical science in the name of ideology. The blind faith of ideology is quite different from Kierkegaard's leap into faith. A "leap into faith" is a life process that proceeds as a fidelity that is developed through an ongoing process of *becoming.* This fidelity comes through an ongoing effort in a practice that searches for unknowns. This is the kind of fidelity that goes beyond the skill to find yet another discovery.

Question strategies should confirm what is already known and challenge conventional beliefs. Aesthetic reflection requires questioning that addresses the process which allows us to sense and understand truths as conditioned by the moment rather than carved in stone. In hypermedia question strategies do not require fixed answers but allow multiple choices that have answers that present one's own possibility for fulfillment.

Asking questions requires a leap into imagination on the part of teachers. Teachers must draw upon their capacity to imagine the lives of the learners they work with, and take their points of view in listening to what they say. Responding

to questions that provoke thinking requires that children's imaginations be engaged as well. The questions which provoke the most excited conversation in the galleries and in the classroom are those which stimulate thinking, challenge assumptions, draw upon the viewpoints and contributions of others, and connect to learning in the various disciplines.

Asking someone a question, can be an invitation to take that first step in a journey. Cultivating and articulating these questions can open doors that reveal pathways for learners. By the teacher's calling attention to the details of an art work, students are drawn to see a connection with their own life experiences through what they observe. Questions become a method that supports good learning practice and connects ideas to learning modalities.

Asking questions that heighten noticing can be refined to address the aesthetic reflection of the beautiful and the sublime in a variety of ways:

1. Ask open-ended questions that encourage personal response. There is a certain amount of risk-taking involved for children to express their personal perspectives in a social setting, however. Therefore it is important to create a supportive environment that allows for the risk taking inherent in self-expression.

2. Connect learners to their own experience. These questions further learning by linking cognition with affect, drawing upon prior experience, verbal, kinesthetic, auditory and other sense memories.

3. Develop a critical perspective that encourages learners to voice their own comments while developing an appreciation for the perspectives of others.

4. Provide scaffolding to enable the learner to make connections between concepts, and develop his or her capacity for abstract reasoning in the

verbal and non-verbal modes. Consideration of these questions calls for imaginative leaps in thinking and often involves locating commonality where none is apparent and differences where only sameness is seen.

5. Help learners develop language for articulating concepts through physicalizing their understanding of the work of art. Here, the connection is to develop activities that extend the learning by linking sensory experience to language.

6. Ask learners to draw upon their capacity to imagine the unknown. These types of questions encourage children to consider possibilities, and help them develop an appreciation of and a tolerance for ambiguity and uncertainty.

The Creative Space: The Haptic Joining of Terms

Another outcome of this thesis suggests a need for lifelong learners to discover a variety of terms that are pertinent to the creative process and suggests a need to link concepts that were broken in early Greek history when the sciences began to separate from the arts. One of these breaks is between chora and topos / space and place. For the arts this unity was never broken: dance, music, theater, poetry and the plastic arts all require an understanding of a unity of space, time and place. Beginning students in drawing classes frequently describe a transitional experience when they realize that drawing is not thinking or sensing, it just happens. This is the kind of response that suggests someone whose eye-hand coordination is now functioning. Or this may be the kind of creative space that Alain Badiou describes that is saturated by its own normalcy.

The creative process involves an interplay between sense and reason / activity and reflection. A haptic method is one that grasps both physically and conceptually. This is also the kind of experience that defines the philosophy of aesthetics as traced through a lineage of philosophers: Burke, Kant, Hegel, Nietzsche, Dewey, Heidegger, Benjamin, Derrida and Greene.

The haptic method of the Australian Aborigines is yet another example of an analog hypermedia. The *Dreamings* function at the level of hypermedia where the spacing of places serves as vehicle containing the ethos of the people. Each element in the landscape is conceptually grasped as a symbol or icon that corresponds to a song line that tells of the customs and knowledge of their ancestors through the attributes of the physical landscape. By singing the descriptive details of the landscape the migration route functions as a coral hypermedia databank.

The haptic method of learning in the Western world is experienced from birth to somewhere between the second and third grade when the hands-on experience of art making usually shifts to a mode of learning that conforms to mandated standards. Parents who have the money, usually do their best to supplement the shortcomings of public education.

From Dewey, Benjamin, Merleau-Ponty and Greene we find an understanding of a process that philosophically suggests we are embedded in “this” place “now.” However, the culture we live in conceives of our world as a product and, as such, a void opens that creates a dysfunctional pedagogy that fails to identify what we need the most: a creative space for growing and learning.

Another necessary linking of terms occurs through the associational transition of raw *materials* into *medium* that is generated into *media* that is presented in *hypermedia.* This associational transition suggests a connection

between Kant's theory of sense and reason in which the *materials* of our world are generated into our conception of self. The phrase, we are the world, is the fulfillment of this unity of transition from sense to knowledge.

The Sublime: Letting Beauty Fail

The great failure of Western culture for Nancy is a failure of sense. At the most basic level this is a failure of identification, where the objective is driven towards interpretation and meaning, without considering what is sensibly knowable. The great lack of ability for many people to identify what is before them is an epidemic of dysfunctional sense. Thirty years of aesthetic education research suggests that people do **not** know how to describe their world in a phenomenological way, before jumping to judgment, issues of taste or premature interpretation.

The educational practice of aesthetic education does however succeed by creating a space of learning through philosophic principles that engage participants with a work of art. The aesthetic reflection of the beautiful and sublime as a pedagogy trains the senses and powers of reason by allowing agreement and contradiction to become a vital force of a beautiful changing world. Peter Greenaway's time-lapse film of decaying animals approaches the sublime and is a great exposition on entropy. *The Gates, a Project for Central Park*, New York City[240] by Christo and Jeanne-Claude is a good example of a work of art that creates a space for learning where the infinity of the sublime transforms a *site* into an *event*.

Mesmerized by the sublime, our reason has no way to judge the situation and even our imagination can't quite gather the forms to unify the infinity that is felt. For some people, entering the unknown is a frightful experience, full of

240 An art installation that lasted from February 12-27, 2005

anguish, and to others, blissful and sublime. In the sublime we confront our limits: our philosophy has no answer for this situation and in the total absence of knowing, an "I", with no voice finally realizes, I don't know and that is OK. Being in the sublime, we confront the limits of our understanding, smile and move on or tremble in fear.

Abject Materials

The power of the sublime is often delivered to us through abject media**,** like a smart bomb with a disposition of *anxiety* and *care*. The sublime coexists and challenges the notion of an ideal beauty. Within the sublime, abject media, failure, chance operations and doubt exist throughout the process of learning. The sublime is the doorway to learning: it reveals the limits of sense and reason which expose the boundary of what is known. The boundary is not revealed through the test or curriculum which can only act as a predetermined answer or memorized data.

An unstated identity with the sublime occurs at every level of Western culture. An overwhelming spectacle of packaged ideals occupies news, advertising, art, politics, entertainment, religion and education. The marketing of beauty calls attention to a fixation on an ever changing ideal. Sense as a process of learning is displaced by the sense of beauty as a preconceived ideal.[241] Even beauty has become a form of the sublime: beyond reason and beyond sense.

241 Government policies during the mid 1980's deregulated businesses and opened the doors for a world economy that has shift the autonomy of any single country into a global network of businesses that have sheltered incomes and moved resources to off shore islands. and to subsidiary locations in third world countries creating an insulated corporate structure that operates outside of any local authority. The success of this global enterprise has largely happened as a result of media conglomerates that emerged during the turn of the 19th century that control news, radio and television in every major city of the world. Foxx Media, Sinclair Broadcasting, Clear Channel and Rupert Murdock Enterprises control what a vast majority of people in the world see and hear as news. Shaped by a right wing conservative agenda that shapes the news to meets its own objectives. What emerges from this spin machine is media in a state of the sublime.

Choosing a Medium to Live In

Merleau-Ponty states that our very act of being is in relation to a self that is in direct access to the world which effects a variety of circumstances ranging from needs to desires. The act of choosing a medium to hold our expression, be it words, art, dance, logic or virtual reality fulfills our senses, imagination and reason.

Many artists find the medium that they are most comfortable with early in life. Artists like Picasso are comfortable in a variety of mediums and methods, while artists like Duchamp find that abject media opens the possible for a conceptual approach to making art.. Other artists like John Cage and Dick Higgins create intermedia art that fuses art forms. The artists of the 21st century generate hypermedia with an electronic apparatus over the space of a global network.

New technologies have changed the way we describe the medium in which we live and think about our world. Virtual reality, artificial intelligence, quantum mechanics, the internet and cloning are only a small example of this new age of being. Only a philosophy that embraces a world point of view will define who we are and what we create. What we do to prepare learners to enter into a future world will not be found in the past. Our history does remind us that we must be ready for change and we can always count on uncertainty. How we project a future possibility can only happen through our imagination in the moment. An outcome of the understanding of this thesis should begin to frame a philosophy to bridge the change from literacy to electracy. This would have to be a philosophy that opens the senses to our world.

Most art teachers would probably agree that they cannot teach someone how to make art. Teaching the skills to make art is possible. However, skills, methods and techniques do not insure significant art: having something to say

does. Finding your medium is finding your voice. For the artist of life the medium might be philosophy.

The pedagogy of hypermediation involves an interdisciplinary practice that requires a knowledge of a variety of mediums that relate to the electronic apparatus. Hypermediation through the computer allows a uniform apparatus for discovery and through different programs restructures learning objectives across any curriculum. Commonly called a web page, hypermedia is at home on the internet and is understood as a public event . Plato's forum is virtually realized, in the creative space of the electric grid. Our packets of data link faceless keyboards to random virtual addresses where our incoming e-mail awaits. With fidelity we purge our spam.

Media that Communicates: Going Underground

Marcel Duchamp made a comment to Andy Warhol that suggested for an artist to be effective he would have to go underground. Although Warhol seemed to be puzzled by the meaning of Duchamp's comment, other artists like John Cage, Alwin Nicolais, Merce Cunningham, Peter Greenaway and Dick Higgins entered into uncharted territories that are largely the result of an understanding led by the power of the imagination and the logic of thinking. Intermedia art challenges the understanding of the known by introducing new areas of exploration by joining media in a conceptual way across disciplines. This presents a philosophic method for creativity in the midst of change. Intermedia art allows the unexpected, the contradictory, indeterminacy, chance operations and the absurd to exist as crucial elements in the presentation of the human experience. Intermedia art presents a situation where logic and reason are engaged in an interplay with intuition and imagination, not as a duality.

Intermedia is a term coined by Dick Higgins in the mid sixties to describe a new way of approaching the arts. He comments on this method by saying,

> I find I never feel quite complete unless I'm doing all the arts---visual, musical and literary. I guess that's why I developed the term *Intermedia*, to cover my works that fall conceptually between these.[242]

The significant occurrence in the arts in the 20th century is the shift from the mimetic representation of the beautiful to the conceptual presentation of the arts of the sublime.

Lyotard states that supplying material to the faculties of knowledge allows a self-maintaining act of play that animates thinking. A timeline of discovery, invention and creativity reveals a world that has shifted from what Schirmacher describes as a movement from *reality* to *virtual reality* to *artificial reality.*

Education as a Minimalist Work of Art

How nations educate their young has a direct connection to how open or narrow minded the people of that nation are. However something happens when we start thinking about *learning* rather than *teaching*. The arts open a space for creativity that is conducive to gaining an understanding of the beautiful and the sublime in education. The sublime as a learning event is the awareness of something that has always been present**,** but that one was previously unaware of and that cannot be stated; that is, something beyond sense or reason.

Kant's placement of imagination as a power to form understanding of content also describes the creative process of the arts, as something constructed by the imagination. As such, aesthetic reflection in the arts suggests a twofold

242 Dick Higgins was also the person who coined the term Happenings in New York City in The 60's

objective of determining understanding: aesthetic reflection of the beautiful and the sublime.

The question from Raymon Cortines that opens this thesis was selected because of his role as a school superintendent of four of the big cities in America and his understanding of learning as fulfilling one's own life through the arts. Margaret Spellings, as the Director of the United States Department of Education, has framed a curriculum that stresses reading and math.

Although the term *unknown* does not appear in my proposition, the *unknown* exists as an symbol that resides under the surface of *learning* through the arts. The condition of education provides the perfect allegory for the kind of learning that is both a private discovery and a public event at the same time.

Aesthetic reflection of the beautiful and sublime reveals the threshold of both the senses and reason. The task of teachers is to create a space for learning that is conducive to each learner finding his or her threshold. Each learner can only define this boundary. The teacher's philosophic awareness of the limited and unlimited capacity of the individual as a learner is what makes the arts particularly useful as a learning apparatus. The arts taken as a whole, create the framework for a definition of a contributing artist of life. Cortines' suggestion for a contributing citizen does not communicate the current postmodern need. Because we are *singular* beings living in a *plural* world, the goal of education should not be directed to conformity to ANY ideal but rather to the ethical construction of the individual's event of truth. This development describes the event of learning as a creative continuum between the empirical and the theoretical.

If education is the way of understanding that prepares young students, then it would make sense, from the perspective of Kant, to place the Arts at the center of the early childhood learning environment where aesthetic reflection

creates life-long learners who pursue their own freedom and choose to be contributing citizens or not. When Kant drafted the first philosophy for the modern university system, civilization was at the beginning of the Industrial Revolution. The advantages of specialization produced a creative space for discovery and invention that changed the course of history. The 20th century was an age of specialization that was advantageous for the kind of deep focus that produced great works of science.

In a post-modern age the requirements of education have changed radically. While the education system is still training individuals for an era that has long gone by, the need for a new educational philosophy must rise from a desire to embrace the moment, not simply what worked in the past. New technologies have changed the way we perceive and think about our world. Virtual reality, artificial intelligence, quantum mechanics, the internet and cloning are only a small example of this new age of being. Only a philosophy that embraces a world point of view will define who we are and what we dare to create. What we do to prepare young learners to enter into a future world can only be determined by an imagination that senses where the medium can go. Our history does remind us that we must be ready for change and we can always count on uncertainty. How we project a future possibility can only happen through our imagination in the moment and the freedom to go where we please.

The goal of hypermedia education could be restated as *aesthetic reflection* that sets mental powers into action by the material of the work of art. Aesthetic Education since the early 1970's has placed philosophy at the center of its pedagogy: Immanuel Kant, John Dewey, Elliott Eisner and Maxine Greene have all spoken of the relationship that the arts create between reason and imagination.

Howard Gardener suggested that learning occurs through our multiple intelligences that reveal knowledge. Each person learns a little differently in each

modality. Gardner's theory of multiple intelligences exposed the autonomy of language and logic as the decisive indication of knowledge in current education philosophy.

Assessment: Pedagogy of Doubt

The task of writing this thesis began one week before the terrorists' attacks on the World Trade Center on 9/11/01 and ended one week after hurricane Katrina flooded New Orleans. The question of how we navigate our lives in the constant "state of emergency" that Christopher Fynsk speaks of introduces the sublime as a critical factor in how we proceed.

In fact the sublime may truly be the only hope of shaking the ideological mandates that assume a control that is in itself an impossible reality. The sublime suggests a philosophy of doubt that allows us to pause and take notice of those things that really matter. The traditional concept of beauty, on the other hand, becomes what seems to be an ideology that can no longer sustain a dream for the future.

The role of assessment in the arts should emphasize a self-critical reflection on a portfolio which includes art work, sketches, notes, contextual research, journal reading and theory. Unlike the test, a portfolio allows a comparison over time of a group of works which reveal differences, similarities and invention. A portfolio of works often reveals qualities that might escape notice in a single work.

Fidelity Based Living

A dialectical critique fostered through inquiry and aesthetic reflection encourages an understanding of both the successful realization of the individual

effort and doubt. Assessment through a portfolio review may suggest a failure to the student but to the teacher rather suggests places where there can be refinement or further development. Likewise, success rarely means something that is held up to an ideal or right answer but rather reveals a fidelity to the process of the artwork coming together. *Getting it right* changes for each work of art. This is not about mimicking success but more about noticing how truth interplays with circumstances.

While these initial points suggest that assessment of the creative process of the arts is a self-critical event there is also a public side to art. The generated art becomes a public event when it is presented. Public reaction to the work of art opens the individual to the awareness of his or her own language. How an audience receives a work of art presents another side that is not necessarily about popular opinion and a consensus but rather about a philosophical understanding of the truth of the event that produces the work of art. This kind of awareness comes from understanding that the work of art *gets the idea across* in the way of a transaction with the viewer.

Hypermedia Exposition

Can hypermediation become the new pedagogy of the sublime? In many ways it already has but in an odd way that challenges pedagogy; the original Greek term *paidagōgos* which denotes *a slave who accompanies a child to school*. While slavery in the United States ended as a result of the Civil War its effects remain in the education system that chains learning to the test, which causes *a state of educational emergency*. As Fynsk suggests this causes *a state of educational exception* which allows a hidden loophole that undermines constitutional rights.

The sublime exposes the hidden interests that underlie this pedagogy at every level of existence. Decision in the face of the sublime has been presented throughout this thesis as *beyond* sense and reason. How we proceed in this state of indecision can only be understood by reason as reflection, or aesthetic reflection of the sublime.

The sublime unfolds as conventional knowledge fails. The sublime can act as a vehicle for encountering unknowns by making imaginative associations in thinking through hypermediation. The joy of learning in the 21st century cannot cling to the ideologies of the past but must forge a new understanding. Hypermediation suggests a process of navigation that breaks the linear means of assessing information and knowledge in a complex world. Hypermediation allows and encourages multiple philosophies to be considered. Hypermediation suggests a curatorial wisdom that ethically considers choices that collage together fragments of beliefs, forming a new understanding of our own artificial reality.

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Appendix

6. Media and Communications Project: Light & Shadow

Light & Shadow, 2001, Video and fabric sculpture installation with 45:00 min DVD and 3 video projectors. Computer animation and 3-D virtual reality model for multiple video projections within a fabric sculpture installation focusing on The Pan American Exposition 1901-2001 at The Burchfield-Penney Art Center in Buffalo, New York.

Project Objective

Light and Shadow is a intermedia art work that uses hypermedia to explore a philosophic exposition of history through images. A 3-D virtual reality model was used to generate a virtual theatric space for mapping and composing images, texts, sounds, music, diaries, scrapbooks, archives, resources and student art relating to The Pan American Exposition of1901. A 45:00 min DVD video reexamines the expositions notion of progress made in the age of technology. A large scale fabric sculpture installation recreates the metaphor of Plato's Cave in the 21st century. Three video projectors cast light and shadow images that question the notion of an impossible progress. This project was presented on the one hundredth year anniversary of the 1901 exposition at The Burchfield-Penney Art Center in Buffalo, New York.

Expositions as a Method for Discovery

The Pan American Exposition of 1901 in Buffalo, New York was one of a series of world exhibitions that are traced back to a prototype of the 1851 Crystal Palace Exposition in London. Subsequent expositions were in Philadelphia in

1876 and Chicago in 1893.[243] The history of these expositions evolved from demonstrations on technology and product design to a global theme park with a sea of intersecting cultural experiences. Each exposition tried to outdo the previous exposition by creating a spectacle for the senses that presented the novelties and discoveries of the day. Thomas Leary and Elizabeth Sholes describe these exhibitions as "manifestations of the Industrial revolution and the global collisions between western civilization and other cultures."[244] These world expositions awakens a desire for the spectacle and what was once entertainment has now been transformed into a media event.

Research for this project began on the internet where a Google search turned up a web site that posted a diary of a young girl (unknown)[245] who traveled to the Pan American Exposition in 1901 by train, from somewhere near Sagertown, Pennsylvania. This diary describes in vivid detail her journey to Buffalo with wonderfully descriptive language. She writes about her journey form town to town with a thorough accounting of her train ride and details about the many cities she pass along the way to Buffalo. Her diary reveals the history of the communities she past through and includes post cards and pictures from her travels. Her understanding of life in the 1900's is sometimes sweet and innocent and at other times expresses ideological beliefs which seem racy, arrogant and naïve.

Light & Shadow is a social and historical portrait of the Great Lakes region and its integral positioning for westward expansionism. Her diary was an excellent *prime source* for a 1901 point-of-view. At a social level these great expositions were Americas first glance at the spectacle of eclectic lights in which many people describe sublime testimonies of exaltation at first seeing the

243 Leary, Thomas and Elizabeth Sholes. Images of America: Buffalo's Pan-American Exposition. Charleston: Arcadia Publishing. 1998. Introduction.

244 Ibid. Introduction.

245 Unknown. Diary of a Young Girl. The Blue Moon Online System. 1901. http://www.buffalonet.org/opus/history.html (Aug. 2000)

illuminated exposition. Progress through technology opened an ideological understanding that effected economy, businesses, labor and the constitutional rights for minorities, women, children and the infirm.

The method of Light & Shadow can be traced through a series of philosophical histories starting from Thomas Edison whose haptic philosophy makes, creates, invents, patents, processes and develops economies which are fulfilled in the age of electricity. This projects follows in the thinking of Walter Benjamin's *wish image* and his notion of retelling history through images which allow for new associations that reinterpret history. As an artistic and educational process, aesthetic reflection from Kant, Hegel, Dewey through Greene shapes the artistic practice and the ethical reflection of a work of art. From Dada, Surrealism and Duchamp to a new understanding of the media as content, the philosophy of hypermedia takes the art of the sublime and abject materials as a means of rethinking history: failure becomes a mode of art. Modernism's pure forms and pure expression give rise to Postmodernism and pluralism that defines the human condition of the 21st century.

Jean-Luc Nancy describes "the chiaroscuro of philosophy, for which 'pure light and pure darkness are two voids which are the same thing. Something can be distinguished only in determinate light or darkness (light is determined by darkness and so is darkened light, and darkness is determined by light, is illuminated darkness)'."[246] The task of Light & Shadow is to rethink the relationships that open possibilities rather than differences. Although video captures an image in ways that are different than painting the process of both art methods seeks a common goal. Nancy further explains this situation: "This is perhaps what painting has been good for. Not to freeze or to represent… a world withdrawn from the wind and inclement weather- but, rather, a world characterized by an indefinite prolongation of the visible itself: its infinite

246 Nancy, Jean-Luc. The Sense of The World. Painting. Translated by Jeffrey S. Librett. Minneapolis: University of Minnesota Press, 1997. p. 82-83 Nancy quotes Hegel, Science of Logic, in this passage from Chapter 1 p. 1

opening."[247]

Inquiry

The theoretical question behind this project positions *Light & Shadow* together in an interplay of dynamics rather than a battle of good against evil: How do opposites work together? A more practical question would be, how do we open a creative space for things to happen without the initial judgments that inhibit action?

The interplay of opposites is nothing new, ancient Greek philosophy understood this concept through a dialectic method that considered the thesis and antithesis of any issue. Another kind of interplay occurs at a social level where issues arise that question the interplay between self/world, sense/reason and habit/belief. For the Greeks democracy required citizens to engage in public speaking that debated the issues of the day. Their art and education methods are clearly established in Plato's Republic that suggest a thought concern for creative learning. Greek concepts can be found in the US constitution and many aspects of the US legal system. This borrowing from other cultures reveals the kind of interplay that curates choices that create advantages; so attention will be given to the curatorial process as a means of identifying a interplay of forces. The Greeks are present in the language of Western culture, from philosophy to habits of life. However the Greeks were not the perfect society that they imaged. The Greeks owned slaves. As an educational exposition Light & Shadow questions ideology through past history and asks what remains of these discriminatory ideals. It seems philosophy may need the *senses* so reason can feel the effects of its knowledge.

247 Ibid. p. 83

Eastern philosophy also has an interplay of opposites as in the yin and yang: passive/active, shade/sun, feminine/masculine or negative/positive. Light & Shadow is a work of art that questions the interplay history through a presentation of images, texts, music and narrative. Light & Shadow was conceived as a curators database of media presented in a 3-dimensional modeling program or virtual reality. As a hypermedia artwork Light & Shadow has hyperlinks that allow networks of interconnections.

An educational component to this project meant partnering with five school districts in Buffalo. Each district chose one class with students participating in art, technology, photography, painting and sculpture. Students were ask to make an art work that represents their generations contribution to the world. The students created their own curatorial staff that organized a “Youth Pavilion“ art show that was presented along side *Light & Shadow* at the Burchfield Penney Art Center.