"Welcome to the Modern World, Painted Stick": Postmodern Magic in Educational Virtual Reality

by

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A dissertation
in partial fulfillment
of the requirements of the
Joint PhD Program
in Educational Studies
Lakehead University

Abstract

This dissertation endeavours to create a conceptual framework with which to examine "video games as postmodern magic." I begin by defining the operative understanding of postmodernism for the purpose of this analysis, focusing on representation, power, and a critique of Enlightenment assumptions, then using the work of Deleuze and Guatarri I construct a postmodern approach to the research, and suggest "resonance" as an alternative mode of evaluation and validation. I then turn to examine the concept of magic, before it was reduced and discredited by the Enlightenment, and in so doing finding another way of looking at the world, a way that privileges imagination over rationality, spirit over materialism, and multidimensionality over linear logic. Having "reached back" to a time before the Enlightenment, I then seek to connect those insights to "visual digital culture" where image, interactivity and immersion predominate. Having created a framework that integrates the issues of postmodernism, magic, and visual digital culture, video games are analyzed within this structure. Noting that magic plays a surface role in many games, I suggest that there is a more pervasive magical element to such games, and look at how video games expand the realm of possibility through simulation and simulacra, how they challenge the meta-narrative by shifting power and control of the narrative to the player, and finally how video games augment our appropriation of reality by synaesthetically creating experiences and a "phenomenology of magic." The dissertation is concluded with a discussion of a possible "pedagogy of enchantment" in which the insights gained from the analysis are applied to the educational environment, narrativity, intereactivity and immersion, are placed within a virtual environment for exploration.

Acknowledgements

Many people think that writing a dissertation is an individual act. However, if I have learned anything in this process, it is that it takes a village to write a dissertation. So I would like to thank a few members of the village that helped me along, and without whose help I could not have completed this work. Thanks to members of my committee, David, Lisa and Bob, who each offered different and valuable perspectives to round out and deepen my research. To Connie and Barry, my internal and external examiners, who pointed out deficiencies that again enhanced the quality of the final document. To my supervisor, Hope, whose wisdom and encouragement kept me going. I could not have asked for a better supervisor. I also need to acknowledge the support of my employer, Trinity United Church in Thunder Bay, who granted me significant blocks of time to complete this work, and who offered years of encouragement. And, finally, to my wife Melida, who not only endured my many absences but who would graciously only roll her eyes when I would say things like "I really think I need to buy a Wii – for my research!" I simply would not have been able to do this without your support.

So thank you to all.

Table of Contents

Table of Figures

Table of Video Clips

"WELCOME TO THE MODERN WORLD, PAINTED STICK": POSTMODERN MAGIC IN EDUCATIONAL VIRTUAL REALITY

Chapter One

Introduction

In Robbins's (1990) postmodern novel *Skinny Legs and All*, five inanimate objects begin a pilgrimage to Jerusalem starting from a cave in Montana. Three are mundane objects from the modern world, a can of beans, a silver spoon, and a dirty sock. Two are ancient artifacts of great religious significance that have survived from antiquity, a Conch Shell and a Painted Stick.

"The inertia of objects is deceptive," Robbins claims. He goes on to say:

> The inanimate world seems static, "dead," to humans only because of our neuromuscular chauvinism. ... On the atomic and subatomic levels, weird electrical forces are cracking and flaring, and amorphous particles ... are spinning simultaneously forward, backward, sideways, and forever at speeds so incalculable that expressions such as "arrival," "departure," and "have a nice day" become meaningless. It is on those levels that "magic" occurs. (p. 69-70)

Painted Stick, not familiar with the ways of the modern world, wishes to start the pilgrimage right away, using the daylight to make the best possible time, and he ignores the advice of the others. But after a day of being shot at, yelled at, and almost run over, he agrees that perhaps it was "naïve" to think that this band of objects might traverse the country with impunity. The narrator notes, with undertones of sadness and irony:

"Welcome to the modern world, Painted Stick" (p. 60).

The "modern world" is, indeed, hostile to the notion of "magic," of inanimate objects having spirits, of "things" being capable of movement and volition. Yet this was not always the case. Easlea (1980) notes that, before the Enlightenment and the mechanical philosophy of Descartes and his successors, humanity was "situated at the centre of an enchanted world ... threaded throughout by a world soul, of a network of sympathies and antipathies, of stellar and planetary influences, of signs conveying God's purpose, of angels and demons, of Satanic temptation" (p. 83). This worldview was replaced, he suggests, by a modern world in which "all matter is inert" (p. 84). An inanimate world sets the stage for a postmodern critique.

Pinar, Reynolds, Slattery, and Taubman (2002) have suggested that postmodernism is a critique of "the Enlightenment project." Specifically, they suggest that one of the conditions leading to postmodernism is the attitude that "nature appears dead in the complete humanization of the world" (p. 469), a death that postmodernism endeavours to address. Similarly, Cherryholmes (1988) notes that postmodernism challenges the "Enlightenment ideals of progress, rationality, control, ... logical positivism and empiricism, and individual accountability" (p. 157). For me, the question then becomes, how might contemporary society move forward in this postmodern time? How can we recover "spirit" in a world conditioned by Enlightenment values that privileges materialism and science? For after all, we *know* that silver spoons and painted sticks do not really think, or move, or have volition. Not in the "real world." Except that in virtual reality they can. In virtual reality,

painted sticks can talk, millions of angels can dance on the head of a pin, and all the laws of science can be suspended.

The privileging of materialism and science is of concern to many educators. Robinson (2003) speaks of the importance of educational environments that foster creativity as opposed to envirnoments that focus only on the left side of the brain in accordance with the Enlightenment values of rationality and logic. He suggests that our society has disembodied knowledge, reducing the body to a mere machine for moving our brains from place to place, whereas what is required are educational contexts that privilege creativity, imagination, and a greater integration of learning. Glasser (1998) is concerned with the current state of education as well, and he worries about "the growing number of unmotivated students" in our schools and how our educational environments need to be places where the student's basic needs, such as survival, belonging, power, freedom, and fun, are met (p. 11). Frank (2004) echoes Glasser's concerns and advocates for learning environments that serve less to control students and more to empower them. Henton (1996) argues that education itself should be an adventure. By creating classrooms that are magical and enchanting, we may be able to motivate and empower our students to greater creativity and open up to them the life long adventure of education.

Purpose of Study.

The purpose of this study most generally is, first, to explore the conceptual dimensions of virtual reality as manifest in video games, particularly the power of virtual reality gaming to fundamentally change what we see as possible, and then, second, to

begin to conceptualize about learning environments where such games give students the opportunity play with alternative realities, where *"what if"* speculations are more than just mental constructs, and where students could experience a gestalt, a full incarnation of the imagination, and experience once again a world filled with magic and spirit.

The research question that guides this thesis and conceptual analysis, then, is this: Can we create, through virtual reality, learning environments that are "magical," that are "enchanting"?

Preliminary Definition of Key Terms

The following are the preliminary definitions of terms found in this study. Each will be explored and developed more fully in upcoming chapters.

Virtual Reality.

Virtual reality is a difficult term to define because of the ambiguous nature of reality itself. For the purpose of this study, broadly viewed, virtual reality is any alternative reality to the normative view – which in our society is defined primarily in scientific terms. In the normative view, reality is the concrete reality perceived by our senses, while virtual reality is a constructed reality that simulates what is "real." If one begins with a different perception of reality, however, this view becomes problematic. For example, if one sees reality as socially constructed, then alternative social constructions are the norm. Similarly, if one takes Turkle's (1995) definition of reality – that "whatever is experienced is real" (p. 73) – then experiences in an online simulation are real, not virtual. Nonetheless, in this dissertation, virtual reality will be defined to mean those realities that have been

constructed to simulate other realities through the use of technology. Again, there are a broad range of possible understandings here, from the conventional, fully immersive virtual reality installations like *C.A.V.E., Placeholder, or Osmose*, to dedicated games on consoles like the Sony Playstation or the Microsoft Xbox 360, to online environments like *Second Life* or *Sims Online*, to the more common experience of a movie in a theatre with surround sound and gigantic screens, or even the experience of watching a drama on television. Chapter Five will expand this discussion.

Video Games.

The challenge in defining **video games** is the broad spectrum of gaming experiences they encompass. There are puzzle games and problem-solving games. There are strategy games and role-playing games. There are first person shooters, third person shooters, and simulation games. There are serious games and social-networking games, and no single definition or discussion can honour all the nuances and differences between these genres. For this dissertation, however, I will use Hutchison's (2009) general definition that a video game is an "interactive, goal-oriented, virtual experience" (http://www.playingtolearn.org/presentation.pdf). This, as well, will form the basis of my discussion of games in Chapter Five.

Magic.

For the purposes of this study, **Magic** will be defined as that which surpasses and challenges our materialistic understanding of how reality works. Whether it be an illusion by David Copperfield where a body disappears, defying the natural laws of physics, or

the Pre-Enlightenment notion of alchemy where base metals were manipulated in order to create gold, or the spells and incantations of witches who it was feared could cause supernatural forces to be unleashed on the world, magic upsets the "natural order" of reality. This will be explored in more detail in Chapter Three.

Pre-Axial Religions.

In this study it will be presumed that pre-Enlightenment magic is the historical and cultural remnant of **pre-axial religions**. Axial religions, which as Smith (2002) points out, "arose in all civilizations around the middle of the first millennium B.C.E." (p. 6), are based on a hierarchy of spiritual embodiment that places all reality on a scale of spirit – the Great Chain of Being serves as a good example. This hierarchy accompanied and reinforced the ascendancy of patriarchal religions that began to dominate as agricultural economies supplanted a more nomadic existence. Pre-axial religions, however, were based on the assumption that everything was spirit, and therefore any causal relationships that were solely based on a material reality were not the only way to comprehend the world. Because axial religions became predominant, pre-axial practices and understandings remained on the fringe of society and were considered the source of superstition and irrationality (Smith, 2002).

Enlightenment Project.

The elimination of such superstition was one of the goals of the **"The Enlightenment Project."** Based in part on the mechanical philosophy of Descartes (Easlea, 1980), the ascendancy of rationalism in Kant who characterized reality as an "island" where only

what is rational is allowed and whatever is not rational is cast off (Taylor, 1999), and the new physics of Newton (Easlea), the Enlightenment radically challenged the claims of both the religious establishment (the post-axial religion of the Church) and the superstitious remnant of pre-axial religion (the practice of magic). Easlea even goes so far as to suggest that the main impetus for the Enlightenment was a growing concern over the morality of the witch trials, which he posits was the persecution of pre-axial religion by post-axial religion, and which led to such moral disgust among much of the "educated class" that both pre- and post-axial expressions of religion were philosophically and scientifically repudiated. Further elaboration of this will come in Chapter Two.

Science.

Science proved to be a key to this repudiation. Science is the appropriation of reality through the ostensibly objective observation of the material world. Through observation and the scientific method, science endeavoured to free reality from belief and base it on knowledge. A distinction needs to be made, however, between science and **scientism**. Scientism is the belief in science as the ultimate and only source of truth (Smith, 2001).

Postmodernism.

This presumed objectivity, however, is one of the subjects of critique in **postmodernism**, which for the purpose of this discussion will be used as a term that includes poststructuralism (Sims, 1999) as well as deconstructionism (Pinar et al., 2000). As Pinar et al. (2000) have noted, there are many definitions of postmodernism and it is a term that covers a vast and diverse landscape, but "at its most general level, ... [it] shares

a rejection of structuralism, humanism, and modernism, a repudiation of the ways various academic disciplines have 'traditionally' presented their versions of reality" (p. 452). Necessarily, then, postmodernism is not a system, but a "method of critique and analysis ... which challenges and subverts not only the central themes, organizing metaphors, and discursive strategies constituting Western thought and informing the Enlightenment project, but all that is modernism itself" (p. 450). Or put more provocatively as Doll (1993) does, postmodernism is "a fascinating, imaginative realm (born of the echo of God's laughter) wherein no one owns the truth and everyone has a right to be understood" (p. 151). This will be explored more fully in Chapter Two.

It needs to be noted that all of these terms will be explored from a Eurocentric perspective. Because I will be looking at the effects of the Enlightenment and postmodernism on our perception of reality, particularly as manifested in video games, this analysis is clearly situated in a western context. This is significant, for as Poole (2010) notes, there is a "difference between Japanese and western games: in the former, the assumption is that everything you see might be alive; in the latter, the rule is more generally that everything is just décor" (p. 122). He continues:

> Some of the greatest British or American games build architecturally awe-inspiring vistas that are totally inert, the rats or shadow-beings that flit around them appearing to belong to a completely different order of existence. By contrast, one of the joys of Miyamoto's games (among others) is that the distinction between environment and character is never quite so clear-cut or easy to second guess. This is not merely a philosophical difference but one that leads to greater density of play potential. (p. 122)

It is this "inert" representation of the world, so different from the Japanese model,

that will be explored more fully throughout this dissertation.

Rationale for the Study

In *The Sacred and the Profane*, Mircea Eliade (1959) suggests that the sacred is what is really real. If this is indeed the case, one of the aims of education should be to explore the sacred dimension of life, to ensure that this sacred dimension is included in the educational endeavour, for without it education is missing an essential aspect of reality – indeed, perhaps the most "real" part.

But how can we determine what is real?

The phenomenologist Paul Ricoeur (1967) has suggested that our understanding of reality is a result of the interplay between our knowledge and our belief, an interplay Riceour describes as "the hermeneutical circle." Ricoeur asserts that "we must understand in order to believe, but we must believe in order to understand" (p. 351). The hermeneutical task develops as it traverses this circle. Initially, knowledge is subordinated to belief – what is believed is considered to be literally true. This literalism is the basis of naïve superstition. The philosophy of Descartes, and the accompanying Enlightenment which led to the ascendancy of science, resolved the hermeneutical task through the subordination of belief to knowledge. Descartes' "I think therefore I am" (*"Cogito ergo sum"*) summarized this subordination. The "I think" determines the boundaries of belief, with rationality proscribing the efficacy of faith. This leads to what Ricoeur calls "the imperialism of the Cogito" (p. 165) which ultimately reduces meaning and myth to history, the world to nature, and metaphysics and mystery to merely physics and science. Thus reality is

The Hermeneutical Circle

"We must understand to believe,
but we must believe in order to understand."

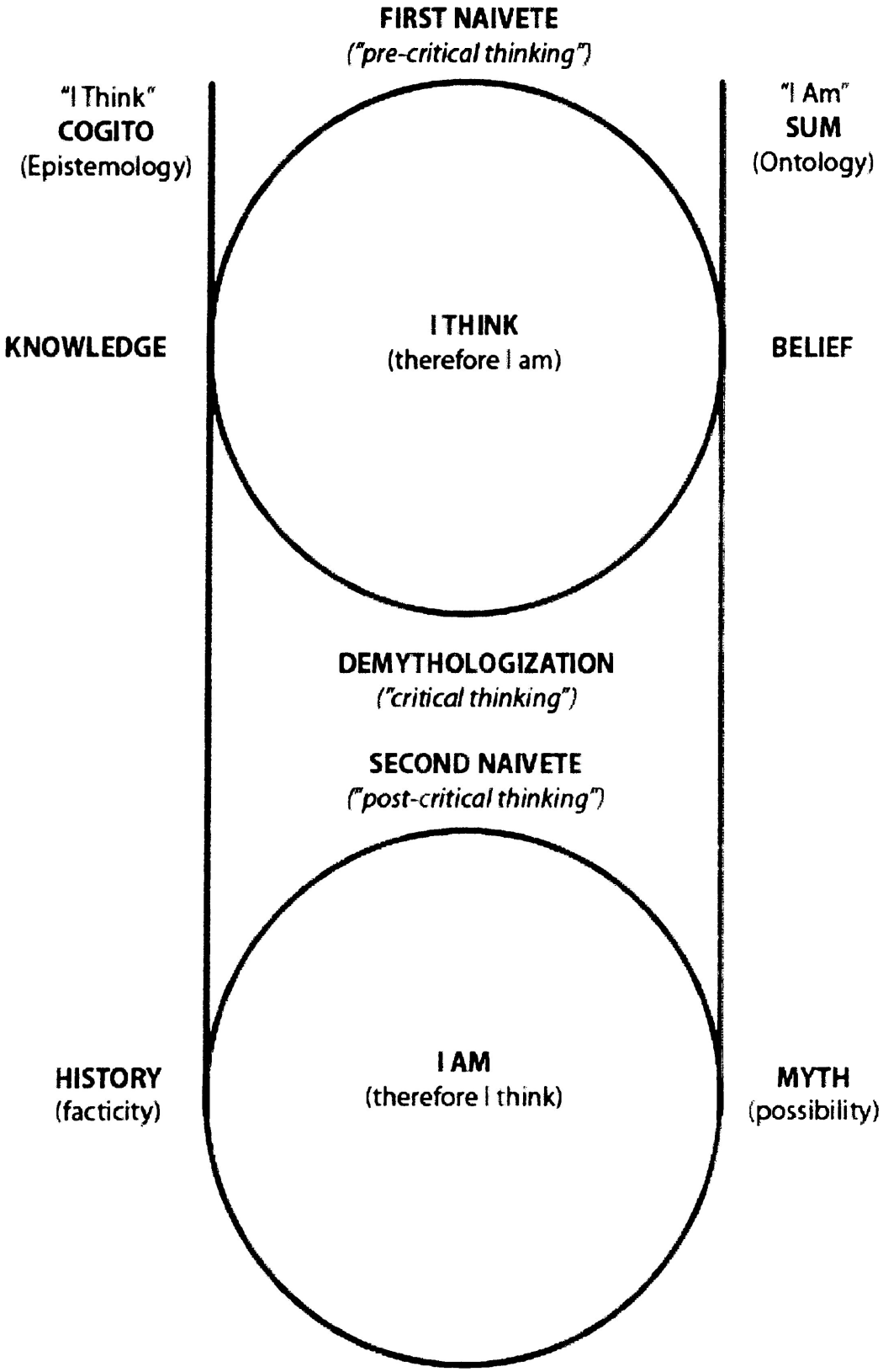


Fig. 1: Ricoeur's Development of the Hermeneutical Task

reduced to the material world, meaning becomes Ego-oriented, and the Spirit is either rationalized or eliminated through an ongoing process of demythologization.

What needs to happen, according to Ricoeur (1967), is "the humiliation of the Cogito" (p. 166) in which the subordination of belief to knowledge, myth to history, is destroyed. Ironically, this same process of demythologization sets the stage for the "the humiliation of the Cogito." Just as the powerful Wizard in *The Wizard of Oz* (1900) is eventually demystified and shown to be a small, ineffectual man, so demythologization strips away magic and myth in the modern world, but leaves only the reductionism, rationalism, and addiction-inducing materialism in its stead. With "the humiliation of the Cogito" the insufficiencies of modernity are revealed, and the need for a new formulation of the hermeneutical task is created. This new formulation Ricoeur calls "the second naïveté" in which myth is afforded equal status with rationality, and a process of "remythologization" is begun. But how can we "remythologize" – or as Annie Dillard (1982) puts it, how do you "desecrate a sacred grove, and then change your mind?" (p. 70). For as the main character in Robbins's novel asks: "Where does magic and beauty go when it's driven from the world?" (p. 473).

Figure 1 attempts to schematize Ricoeur's conceptual framework. The two "naïvetés" are represented by the two hermeneutical circles – one representing the traditional Cartesian formulation of "I think therefore I am" which leads to the supremacy of rationalism and the reduction to the materialistic and, consequently in religious terms, the literal. In the first naïveté the Cogito is supreme, and subordinates other "ways of

knowing" to its sphere of influence – either rationalizing phenomena or rejecting the legitimacy of any reality beyond rationalism. So complete is this subordination that only a "humiliation" of the Cogito will be sufficient to wrest reality away from its dominance. This humiliation is accomplished by the demythologization of the first naïveté, opening the way for a second naïveté to be created – one in which being takes precedence over rationality, and the full range of human knowing (symbolic, emotional, aesthetic, mythic) becomes a part of the hermeneutic formulation. Literalism, fundamentalism, and facticity are replaced by possibility, diversity and inclusion, and imagination. In other words, the religious now has a place in the hermeneutical circle.

Borg (2005) formulates this issue in a simpler way. He suggests that hermeneutics can be summarized in three stages: pre-critical thinking, critical thinking, and post-critical thinking. Pre-critical thinking is what the modern world associates with pre-scientific, superstitious, "naïve" thinking. Critical thinking is manifested in the Enlightenment Project, where what we believe is subjected to a rigorous process of rational demythologization, where belief is replaced by logic and objective observation. However, the hermeneutical circle is incomplete without belief, and the limitations of positivism have only reinforced the need to re-integrate belief into our epistemologies. Hence, a new "naïveté" needs to be formulated where what we believe contributes to what we understand, and our new understanding contributes and re-formulates what we believe, and it is here that Borg's "post-critical thinking" and Ricoeur's "second naïveté" converge.

This is essential in our re-appropriation of the notion of magic. Magic referred to

in this paper is not the magic of the first naïveté, where it is taken literally. Rather, magic is understood in relation to a second naïveté, where iterative reflective processes include experience, logic, *and* belief.

Smith (2001), one of the world's pre-eminent scholars of world religions, argues that we need to go back and reconsider aspects of the traditional or religious world-view that preceded the Enlightenment. He suggests that there are three fundamental problems that human beings need to address. The first is "finding sufficient shelter and food" – which he calls the Problem of Nature. The second is the problem of "relating to one another" – which he calls the Social Problem. The third problem is "relating to the total scheme of things" – which he calls the Religious Problem. The fundamental error of the modern world, he argues, is that we use a scientific, rationalistic and materialistic worldview to address all three problems, and that we have created a "tunnel of modernity" that has led to an age of tunnel vision.

But some of those human problems, some questions of meaning and relationship and place, are better addressed by alternative world-views. The problem of nature, Smith (2001) assertss, is best addressed by the scientific worldview. He further suggests that the social problem is better addressed by postmodernist thinking, through the postmodern critique of the social injustices in our world and its analysis of their Enlightenment roots. Furthermore, the religious problem, the issue of how we relate to the total scheme of things is not well addressed by the scientific tendency to reduce everything to matter, and to make human rationality the measure of all truth. For that, we might be better served

to examine traditional worldviews – which for Smith are the religious worldviews of the pre-axial age. In an article on the "ambiguity of matter" (2002), he writes:

> In *The Archaic Revival,* Terence McKenna argues that when civilizations run into trouble they instinctively reach back for the last sane moment before the trouble set in. For Renaissance thinkers, trying to make sense of the Black Plague and the cracks in Christendom that could no longer be denied, it was the Greeks who appeared sane. Our troubles are much larger for being global and planetary, so we reach back further, to the archaic. (p. 2)

This "reaching back" is a key concept for my methodology for it provides the rationale for the examination of pre-Enlightenment magic.

Smith (2002) makes the distinction between pre-axial – or archaic – religion and post-axial religion. Post-axial religions create hierarchies of being, from inanimate to animate to divine. Pre-axial religion, on the other hand, makes no such distinctions and "knows nothing of lifeless matter." As Smith explains:

> Everything is alive in the pre-axial world-view. Animals and birds are frequently referred to as "peoples," and in certain circumstances can exchange forms with humans. The division between animal and vegetable is likewise muted, for plants have spirits like the rest of us. Even rocks are alive; under certain conditions they are believed to be able to talk, and at times are considered divine. Primal peoples are not blind to nature's differences; their powers of observation are legendary. The point is rather that they see distinctions as bridges, instead of barriers. (p. 7)

Thus Smith concludes: "primal peoples are better metaphysicians, though their metaphysics ... is naturally of mythic cast" (p. 8).

Similarly, mystics have an ability to see beyond the reductionism of the material age. As Smith (2001) points out: "Mystics are people who have a talent for sensing places where life's carapace is cracked, and through its chinks they catch glimpses of a

world beyond. ... Stories grow up around theophanies such as these, and in the course of generations they condense into myths that impregnate cultures with meaning and motivation" (p. 29).

In pre-Enlightenment days, magic and mysticism were the "remnants" of pre-axial religion. So if we are to follow Smith's advice, we might well "reach back" to seek some insight from those mystical practitioners of magic, alchemy and witchcraft in the days before Descartes and his mechanical philosophers began the process of modernization. Smith's prescription is clear:

> We should enter our new millennium by running a strainer through our past to lift of its three periods the gold it contains and let its dross sink back into the sands of history. Modernity's gold – i.e. science – is certain to figure importantly in the third millennium, and postmodernity's focus on justice likewise stands a good chance of continuing. It is the traditional world-view that is in jeopardy and must be rehabilitated if it is to survive (p. 96).

In our modern world, we have replaced our temples with a tunnel, a Garden for a Kantian island, an inclusive and unifying metaphysics for a physics that only describes the material world. If our educational initiatives are to teach the fullness of reality, addressing the alienation of our age, we must seek a way to remythologize our inert world, embracing "a second naïveté." This dissertation will explore the possibilities virtual reality affords in creating such "a second naïveté."

Some Examples of Magic in Videogames

Examples of the use of a magical worldview abound in video games. In the video game *The Elders Scrolls IV: Oblivion*, one chooses the role of either Warrior, Elf,

or Magician as one works one's way through a fantasy world, solving puzzles, casting spells, collecting resources, battling evil, and exploring the mysteries of this virtual world. Moreover, the goal in this endeavour is nothing less than the salvation of the world from the dark and threatening forces of Oblivion. The player progresses through this world by means of a controller that has two joysticks, a main directional button, four alphanumeric buttons, two triggers with ancillary buttons, as well as an information button and two mini-switches – some actions requiring combinations of buttons and triggers to be activated – indicative of the high level of skill and acquired learning involved in playing the game. Learning how to use the controller is no small learning task, but becoming familiar with the vast fantasy world with its many levels and challenges is even more challenging and daunting. It is estimated that an experienced gamer will spend up to sixty hours on the single-player game (Wright, 2006, p. 111); but in similar video games, such as the online, multi-player *World of Warcraft,* this is expanded considerably and players can spend years playing with others. Playing these games require overcoming some significant learning challenges. So what is the motivation to devote such time and energy to this learning?

In *Black and White*, the player must determine whether he or she "will be an evil or benevolent deity" (http://www.lionhead.com/bw2/about.html). Coming from the genre of "God-games," like *Populus* and *Fable*, the game includes "miracle effects" and the choices the player makes changes the shape of the material world, and even the "flora and fauna" morph "to reflect your personality." Is there a correlation between the open possibilities of a virtual world, and the religious notion of God as a Creator?

In *The Journey to the Wild Divine*, further magical skills are taught – levitation, flying magic carpets, starting fires by thought – that enable the player to explore a world of spiritual enlightenment. But these magical skills are determined by biometric measurements of heartbeat, skin temperature, and level of perspiration – the player connected to the computer through biofeedback sensors on his or her fingers – and so one battles the enemy by increasing one's energy level and one solves problems or open doors by learning to relax through deep meditative exercises. Is there a connection between the power within and the power represented virtually in the game?

In *God of War*, the developer, Jaffe adapts Greek mythology to the online game environment and notes that "people have said *God of War* plays like a Greek epic that never got written down" (Howe, 2006, p. 123). Jaffe explains his philosophy of game design in this way: "If Terry Gilliam created a kids' pop-up book, what would it look like? We wanted that kind of *magic* in the game" (p. 123, italics added). Is the word "magic" in that goal simply coincidental, or incidental – or is there some significance, even unintentionally?

Just as magic suspends the limits of what science says is possible, in virtual reality anything is possible. Economies can be constructed – without scarcity. Dangerous adventures can be undertaken – without the risk of death. Anything can happen. Anything is possible. Even education. *Ancient Spaces* is an online educational environment where 3D reconstructions of ancient civilizations are created using a wiki-like development model. Users are invited to contribute artifacts, like buildings or jewelry, to the re-creations, and

are rewarded with points that allow them to go on historical missions – a ride down the Nile, or to the front line in the Peloponnesian War. A team of academics monitors the contributions for authenticity. In *Friends of Chris vs. The Elysians*, the Conflict Lab creates an online role-playing simulation in which the gamers learn about personality types and conflict resolution styles, as they endeavour to either save Chris's sister from the Elysians, or try to persuade Chris's friends that his sister is safe with the Elysians. In Breakaway Games' *A Force More Powerful*, the player learns about "nonviolent strategies and tactics that have been used successfully all over the world by individuals and groups struggling to win freedom or secure human rights" (http://afmpgame.com).

Civil rights also can be fought for online. In the fall of 2005, a group of *World of Warcraft* players committed virtual suicide to protest the restrictions placed on the gaming community by the Chinese government. In January the Chinese government relented on their restrictions in the face of "the public outcry (and virtual die-ins)" (Suellentrop, 2006, p. 131). A player can even fight for his or her real life. In *Re-Mission*, players are young cancer patients who "fly a nanobot called Roxxi through a cancer patient's body on missions that range from free-roaming exploration to run-and-gun combat. Along the way, power-ups energize weapons like chemotherapy, radiation, and diet, as well as response to complications like bacterial infection, nausea, fever, and constipation" (Christen, 2006, p. 143). The goal of the game is to give players, whose lives have been turned upside down, an opportunity to take some control of their lives. Studies are currently being conducted on beta versions of the program testing the patient's "sense of control, adherence to treatment

programs, knowledge of the illness, and quality of life" (p. 143).

The educational opportunities in the gaming environment are obvious, ranging from system analysis, pattern recognition, sociological principles, to how the body works and how one can control and maximize medical regimens. But what about religious education, an area that examines spiritual values as well as information and knowledge? In *Second Life*, an open-source, virtual reality world is created where people can buy real estate and create their own communities. Mark Wallace (2006) is a virtual reporter who writes stories about this virtual world, and he tells of "one real-life Native American who keeps his tribe's heritage alive in the authentic village he built in the game" (p. 147).

In an online blogging forum on gaming, "Terra Nova: Exploring Virtual Worlds," Mike Sellers (2006) notes:

> Many MMOGs [Massive Multiplayer Online Games] have within them some nod toward religion, some degree of religious trappings at least. Priestly characters are common, as are holy warriors (paladins). To say nothing of demons and angels based loosely on Christian archetypes, the former of which make regular appearances in online games. (p. 1)

But he also wonders:

> When religion does appear in MMOGs it does so as a vague prop that provides nothing in the way of gameplay based on themes of faith, adherence to a code of conduct, membership in and sacrifice for a larger organization, etc. In game terms religion could become operative in a number of ways ranging from socially motivated achievement gameplay to role-playing to exploring somewhat deeper themes than we typically find in existing first-generation MMOGs. Even in straight achievement terms amenable to current games, imagine for example a paladin who gained bonuses for things like making a personal sacrifice for weaker members of a party. (p. 1)

What Sellers is wondering, then, is whether the use of magic, myth and religion is really just an entertaining facade and incidental to the game, or whether it could be more intrinsic to the game itself. In order to answer that, we need to "reach back" to those pre-Enlightenment times to look to determine the authenticity, correspondences, and connections between pre-axial magic and its use in videogames.

If we are to follow Smith's (2002) prescription and "reach back" to explore ways of knowing that pre-date modernist formulations, virtual reality provides an opportunity to reconceptualize magic and create a model of "the second naïveté" – a reality that is not literal and bound by the laws of science, but one in which imagination and possibility, symbol and myth become "real." In so doing, new ways of visioning educational environments that are more holistic, enchanting, and even spiritual may open up.

Methodological Considerations

If we are to take Smith's (2000) methodological advice and "reach back" to a previous era to gain perspective on our contemporary situation, how might a contemporary researcher go about doing so? Because of the philosophical and theoretical nature of the question, conceptual analysis may be a preferable approach instead of quantitative or qualitative research. Through conceptual analysis, a conceptual framework can be developed which enables an exploration of the ideas, and the relationships between those ideas, that may give us a better understanding of the issues involved. In other words, in order to explore realities and concepts outside the scientific paradigm, we need to escape Enlightenment assumptions and methodologies.

In Kuhn's (1962) classic treatment of scientific paradigms, he argues that sufficient anomalies to an existing paradigm provide the impetus to the development of a new conceptual paradigm, and that previous assumptions and understandings oftentimes appear foolish and even nonsensical in the context of a new paradigm. He notes, however, that what may appear nonsensical in the new paradigm makes complete sense in the conceptual constructs of the previous paradigm. The physics of Aristotle, Kuhn observed, made no sense in Newtonian terms, but complete sense in the Aristotelian paradigm.

This raises a key methodological concern for this research: How can we do conceptual analysis across different conceptual paradigms? Postmodernism, magic, even virtual reality, arise from different paradigmatic contexts. Clearly, a distinct understanding of the logic and sensibility of each paradigm is a necessary prerequisite for such cross-paradigmatic conceptual analysis. It will be necessary, then, to examine the various conceptual foundations and observe anomalies, connections, and relationships.

Rationale for Conceptual Analysis in Educational Research

While not as mainstream as empirical quantitative or qualitative research in the social sciences, conceptual analysis does have a place in educational research. Dewey (1938), the champion of experiential education, acknowledged that progressive education needed to be "directed by ideas which, when they are made articulate and coherent, form a philosophy of education" (p. 29). Some years later, Wilson (1963) suggested conceptual analysis might be one way of developing a philosophy of education, because it "gives framework and purposiveness to thinking that might otherwise meander indefinitely and

purposelessly among the vast marshes of intellect and culture" (p. xi); he argues that conceptual analysis is essentially a "process of becoming conscious ... to become aware of the significance of our words" (pp. 14-15).

Manifestations of conceptual analysis vary greatly, however. McMillan and Schumacher (2006) suggest that "concept analysis involves clarifying the meaning of a concept by describing its essential meaning, different meanings, and appropriate use" and that there are three types of such analysis: *generic analysis*, which "identifies the essential meaning of a concept," *differential analysis* which delineates differing definitions of a concept, and *conditions analysis* which "identifies the conditions necessary for the proper use of a concept" (p. 424).

Coombs and Daniels (1991) suggest that conceptual analysis is not "identified with any specifiable methodology [but] rather it comprises a diverse set of analytical questions, techniques, and procedures" which include *concept interpretation*, whereby the meaning of the concept is clarified, *concept development*, where clarified concepts are developed into a conceptual structure, and *conceptual structural assessment*, where the adequacy of those structures are examined (pp. 27-28). They see conceptual analysis as a form of scientific inquiry, where concepts are codified and measured.

The Research Committee of International Association for Dance Medicine and Science (2003) proposes more generally that "conceptual analyses involve speculating about connections that have yet to be confirmed with intervention research or descriptive studies. Conceptual analyses are often built around a review of the research literature

related to the concept under consideration" (p. 2). This last definition is characteristic of the nature of these earlier understandings of conceptual analysis, that it is a systematic, structured analysis of the ideas that underlie the practice of education, and fill the gaps in knowledge that are "yet to be confirmed with intervention research."

Brandon's (1988) discussion of "philosophical or conceptual analysis" is perhaps the most extreme example of this tendency to make conceptual analysis a scientific endeavour instead of a more philosophical one. He refuses to use the term "concept," preferring to see conceptual analysis merely as a way of "talking about the ways people use language," and suggesting a methodology whereby certain words are coded, categorized and counted – creating what might be considered a quantitative form of conceptual analysis.

There are some significant exceptions to this scientific approach to conceptual analysis suggested by the theorists I have mentioned so far, however. Black (1966) argues that the dominant metaphor for the educational researcher should be that of the artist, for the artist, like the researcher, needs to "wrestle" with the material that "both resists and nourishes his [sic] intention" (p. 40). Interestingly Black notes that "the artist will not gladly think of his material as wholly passive; it has for him 'a kind of life of its own'" (p. 40). Accordingly, he proposes that conceptual analysis needs to be "aesthetic" in nature, where "respect [for the materials of creation] merges into a love for the intrinsic nature of the material upon which all artistic integrity is founded" (p. 41).

Finally, Barrow (1990) proposes that conceptual analysis needs to be a part of "a holistic approach" to educational inquiry. He notes that "conceptual clarity is the backbone

of any worthwhile research" (p. 269) for it provides a broader context for determining the meaning of empirical or analytical issues. He indicates there are four characteristics of such a holistic approach: "(1) the integration of questions about means and ends, (2) the use of many specific modes of inquiry, (3*) the granting of logical priority and great practical weight to conceptual questions*, and (4) the willingness to generate certain methodological (more generally, practical) prescriptions from purely conceptual first principles" (p. 271, italics mine). Moreover, Barrow makes it clear that while conceptual analysis can provide valuable results without other forms of research, other types of research require a conceptual context to be of value.

Educational research, given its institutional and disciplinary home is within the social sciences, has gravitated toward quantitative and qualitative methodologies, leaving conceptual analysis on the fringes. Nevertheless, as Eisner (1997) points out, ultimately the "core concepts in the social sciences are philosophical in nature" (p. 5).

Cross Paradigmatic Considerations

For the most part, the methodological tools and categories in the social sciences are drawn from the Enlightenment, which created our current modern, scientific paradigm. But the proposed analysis crosses intellectual paradigms and, because it deals with the nature of reality itself, is inextricably related to our understanding of the world itself. As people immersed in the modern worldview – as fish are immersed in the water in which they swim – we assume that our modern conception of reality *is* reality. This means that in the modern world the *physical* and *material* are what are real. But this was not the case

before the Enlightenment, nor is it the case with the emerging scientific understandings of quantum physics, as we will see in Chapter 2. So while the modern, scientific methodology of breaking objects – or even concepts – into ever smaller discrete parts and looking at how they fit together may work in the physical world, where what is real is inert matter to be observed by the senses and comprehended by our rationality, this methodology will not help us understand the pre-modern world, nor the post-modern.

The assumption of the pre-modern world was that physical objects existed in relation to a spiritual reality – that there was a relationship between the seen and the unseen. Conceptually, analysis involved the categorizing of objects according to a "Great Chain of Being" with a determination of the ever increasing spiritual power of objects as they were higher on the Chain. But whether an object was "mineral, vegetable or animal" – to use Aristotle's basic typology – everything had a spiritual dimension, and it was this spiritual dimension that was the source of its power. Thus the pre-modern conceptual analyst was concerned with relationships and "naming" – for in naming one was revealing the spiritual relationship of the physical object with its powerful essence (Ludwig, 1989). This relationship between the physical and the spiritual was the basis of alchemy, for example. The key to analysis, then, was determining the relationship of a particular manifestation of reality to the absolute reality that lay beyond its physicality.

The Enlightenment challenged the notion of an absolute reality beyond the physical and made the material the absolute. What became supreme was not a power "out there" but the power of human rationality. To counter the superstition and irrationality of the

pre-modern world, the Enlightenment reduced reality to what can be perceived, verified and proven according to a restrictive set of epistemological principles. Thus the notion of the "Kantian island" whereby truth is limited to what can be rationally proven. But, of course, by choosing to live on this island, we ignore the rest of the world – with spiritual, intellectual and environmental consequences.

This island of modernity, this scientific world of inexorable material progress, was shaken, however, by the Second World War where the progress of technology unrestricted by any outside power, contributed to the Holocaust and Hiroshima. Not only was society changed, but science was changed as well. For with the splitting of the atom – the ultimate Enlightenment example of breaking the physical world into smaller and smaller parts – came the advent of a new science that observed anomalies the modern worldview could not explain. This new science was quantum physics.

Briefly, quantum physics challenged the fundamental principles of modernity: that the physical world was static, inert and observable. Physicists started suggesting that objects were not inert matter but moving particles and waves of energy, and more than that, they were waves of particles and energy that *changed* when observed (Greene, 2003). Consider the implications for quantitative and qualitative research. Quantum physics suggests that there is no such thing as a neutral observer watching a static reality on the other side of an observation window – for by the very act of observing, what is being observed is changed (Arntz, Chasse and Vicente, 2005). This also means that what is true is only true *in relationship*. This perception based on relationship means that all

humans have a tendency to see in wholes, not in parts, so while an object may be a flow of energy, when it "collapses" in perception it creates a whole – we do not see the particles or individual atoms (Arntz et al). Hence, a holistic approach is more akin to the new scientific sensibilities than the division into parts. Moreover, the whole is not inert for what we observe has "a life of its own," and what emerges is what O'Murchu (2003) calls "a distinctive sense of an alive universe" (p. 27).

The implications are radical: "In a quantum universe, nothing is predicable, and the idea of life being in any way determined is abhorrent. Quantum theorists very much like the word 'probability' .... Surprise, expectancy, wonder, creativity, beauty and elegance are the kind of words that enable the quantum scientist to make sense of reality" (O'Murchu, p. 34). It is precisely because virtual reality challenges the materiality of conventional reality and, indeed, can offer a way of exploring this non-physical reality, that it has such power as an educational tool and metaphor in a postmodern age.

Postmodernism, then, is not just a critique of "The Enlightenment Project" but is a reflection of this new sense of reality. Deconstruction, critical pedagogy, post-structuralism all are methodologies that exist in relationship to a perceived reality – oftentimes critiquing the absolute claims of that reality. The complaint that postmodernism does not create its own intellectual structures but merely critique other structures is a valid concern. But in a world where reality is not static, but is flowing, ever-changing, and transformed by observation, this can be seen to be characteristic of the new paradigm.

So what are the methodological implications of these theoretical, cross-paradigmatic considerations? First, any cross-paradigmatic methodology must draw on more than purely scientific assumptions and tools. The aesthetic must also be part of the method whereby the researcher wrestles with material that "has a life of its own," seeking an end result that is not only logical but beautiful as well. Second, the conceptual analyst needs to draw on the tools of categorizing, clarifying, and coding as a means to the end of understanding the relationship between the parts, building a unified structure through a holistic approach, and avoiding the notion that parts have meaning independent of the larger whole to which they belong – affirming instead a unified structure which challenges the notion of specialization and champions the validity of integration. Third, any conceptual structure needs to be understood in terms of flow and movement, that concepts change and adapt in relation to each other, and that static or rigid schemas do not accurately reflect the nature of reality. Just as quantum physics suggests that material reality is actually a flowing, moving, vibrating sea of activity at sub-atomic level – like strings that resonate and membranes that are constantly bending and stretching - so a cross-paradigmatic methodology must allow for concepts to be alive and move.

Overview of Analysis

In this conceptual analysis, I explore the relationship between pre-modern magic and postmodern virtual reality, and how video games are may be an exemplar of the conceptual framework established. In this chapter, I began this discussion by contrasting

the modern inanimate understanding we have of the world with an animated world, infused with spirit, and asked if virtual reality could create learning environments that are magical and enchanting. The approach I have taken is to look at the problem from a philosophical perspective, and to develop a conceptual framework with which to examine the question.

The first step in creating magical and enchanting environments is to challenge the assumptions of modernity, and postmodernism does this very effectively in its critique of modernity's indebtedness to the values of the Enlightenment project. By doing so, postmodernism opens up a space for the consideration of alternative worldviews. I argue that the task involved in creating magical and enchanting educational environments is to create a "second naïveté" where the relationship between belief and knowledge is re-established, and a more holistic epistemology created. The next step is to "reach back" to a time before the Enlightenment, and look at how the world was viewed when magic and spirit were normative. I then looked at a variety of examples of how video games include magical elements in their game play, offering a glimpse at how a magical world could be envisioned, and even brought to life.

In Chapter Two, I explore more deeply the challenge of postmodernism both in its critique of modernist assumptions and in its beguiling ambiguity as a term. Through its modernist critique, it opens up a space where discourse on fringe or forbidden concepts can be examined – concepts such as magic or the legitimacy of video games.

I will address the difficulty in discussing postmodernism by adopting Ward's

(2003) definition that postmodernism is an ongoing critique of whatever happens to be the "modern" at the time. I will establish that postmodernism is not an era but an attitude, a method for conceptual analysis, and that three concerns will be the focus of my work. The first is the issue of representation – how reality is represented. The second is power – who has the power to determine which representations are considered "true" and how meta-narratives are the foundations of such power. Finally, postmodernism is concerned with an ongoing critique of one of the key meta-narratives, the Enlightenment project, and the values of linear logic, rationalism, scientism, and materialism that are reinforced by it (Ward, 2003).

I will then examine the work of the postmodern philosophers Deleuze and Guattari (1987, 1994) and their philosophical methodology. They argue that meta-narratives are constructed to shield us from the chaos of life by imposing an "umbrella of opinion" as protection. In response, they advocate for an engagement with chaos, that can be approached in three ways: through science, art, and philosophy. Philosophy operates by entering into a relationship with chaos and casting "a plane of immanence" that surveys the territory and seeks to connect the chaotic elements. But a plane of immanence is not a plane of permanence, and it is fluid and ever-changing.

I will further explore Deleuze and Guattari (1987) by taking their concept of a "rhyzomatic metaphor" and examine how quantum physics can metaphorically connect the concepts of relationship, the fluidity of experience, and an ever-changing reality,

thereby challenging the materialism of modern science and opening up possibilities of non-material and even non-rational constructions of reality.

These concepts, then, will lead me to an examination of "resonance" as a criteria for validity. By conceptually seeing ourselves in relationship with what we examine, the distance between what we study and ourselves is eliminated, and we do not just observe, but we can experience and feel what is being examined. In this way truth and reality can be freed from modernist constructs and meta-narratives, and a new world of possibilities is opened up.

In Chapter Three, I will examine some of the concepts and constructs of the world before the Enlightenment project – a world infused with spirit. I will show how modernism has recast the values of a magical worldview in ways that makes magic look irrational – something only the gullible and unthinking could accept. I will show that when viewed in its own cultural context, before the values of the Enlightenment became dominant, that magic made and makes its own kind of sense.

Astrology has been reduced to silly newspaper predictions, but it represented a profound relationship to the universe in which we are all intimately connected – a reality now suggested by quantum physics. Incantations and spells represented the power of words and concepts to order and even control the world. Elixirs, amulets and talismans were agents of re-connection with the world, while geomancy represented a desire for balance and wholeness. Alchemy represented the ability to transform our world, finding spiritual power in what was seen as inanimate and material.

In all of these magical constructs, the importance of imagination in the construction of reality, the intimate relationship we have to a multi-dimensional world, and the power derived from such an imaginative connection to that world, a power that can lead to transformation, forms the basis of a magical appropriation of reality. I will argue, with such power, we are able to discover our "virtu" and seek to go beyond the limits placed upon us, achieving new realms of possibility and potential. These possibilities can find expression in virtual reality.

In Chapter Four, I will examine how visual digital culture can be seen as a convergence of postmodernism and magic, how the multi-sensory experience of reality goes beyond the modernist dependence on rationality and materialism. Instead of Enlightenment values being privileged, visual digital culture privileges the multi-dimensional and multi-sensory, it privileges the surface over the meta-narrative of depth, and it privileges intensities over linear logic. Out of this convergence, I will develop a conceptual framework that encompasses the relationship between the concerns of postmodernism, the alternative worldview of magic, and possibilities of visual digital culture.

Postmodernism's concerns about representation, the critique of the images used to represent truth and reinforce dominant meta-narratives, can find expression in magic's expansion of truth to include the imaginative and irrational, as well as the importance placed on visualization in visual digital culture, where almost anything that can be imagined can

be represented. Postmodernism's concern about power can be conceptually connected to the pre-modern powers to magically transform the world, which in turn finds expression in visual digital culture's emphasis on interaction, where one does not just observe but can participate and be empowered to engage and even change the world as presented. Finally, the postmodern concern with the dominant values of the Enlightenment project is addressed by the multi-sensory and multi-dimensional synaesthesia of magic, a synaethesia technologically re-created, or mediated, in visual digital culture.

In Chapter Five, I will explore three dimensions of play based on my conceptual framework. I will note how video games can not only simulate reality but create simulacras, realities that do not exist. While modernism, through rationalism and materialism, limits possibilities, video games expand the realms of possibility. Similarly, in modernity, power is exercised and controlled through meta-narratives, but in video games the power shifts by giving control of the narrative to the player. Not only can one control the action, in some games the player can control the story. Finally, while modernity reduces knowledge to be a product of Mind by privileging rationalism and linear logic, video games augment our appropriation of reality by synaethesically creating a phenomenology of magic, a mult-sensory, multi-dimensional experience of reality.

Finally, in Chapter Six, I create a simple virtual space to play with the preliminary implications of the conceptual framework for education. I will propose a "pedagogy of enchantment" that seeks to incorporate more narrativity, interactivity, and immersion into educational environments, applying the often addictive attraction of video games to the

educational endeavour.

In Robbins's novel, *Painted Stick* and his supposedly inanimate friends begin a journey – a journey to be re-united with the magical, the Sacred. As they do so, they learn about an ancient dance, a dance where veils are discarded, and with the dropping of each veil, a new door to the dwelling place of the Divine is revealed. "The veils," Robbins suggests, "represented layers of illusions. As each veil peeled away, an illusion was destroyed, until finally some great central mystery of life was revealed" (p. 402).

Postmodernism can help strip away the veils of illusion in modernity and reveal an old magic, a magic that can re-define reality, expand possibilities, and re-engage our imaginations. For as Robbins puts it: "We approach the Divine by enlarging our souls and lighting up our brains. To expedite those two things may be the mission of our existence" (p. 189).

Chapter Two

To Follow the Witch's Flight: Magic and Method in Conceptual Analysis

"Pious dogma, if allowed to flourish, will always drive magic away."
(Robbins, 1990, p. 357)

In Goya's classic painting, "The Flight of the Witches," a man is standing on the ground, his head covered by a sheet, while above him the same man, presumably, is asleep, surrounded by three witches who seem to be transporting him, as in a dream. He is ready to take the flight of the witches. In Enlightenment days, such a scene would be considered sinister – the superstitions of magic and witchcraft trying to delude and confuse the man on the ground, while endeavouring to do unspeakable things while he is asleep. But to the postmodern mind, the picture might represent a possible liberation from the mundane world of rationalism and the limits of sensory data, and point to the possibilities of magic, mystery and enchantment. Indeed, the postmodern theorists

Figure 2: Goya's "Flight of the Witches"

Deleuze and Guattari (1994) make the provocative statement that "to think is to always follow the witch's flight" (p. 41).

While magic and postmodernism might at first seem an odd combination, both challenge the orthodoxy of the Enlightenment Project, both question the materialism and truth claims of science, and both open up explorations that sometimes defy logic and rationalism.

The Postmodern Predicament

Educational researchers are conversant in the methods and practices of traditional quantitative and qualitative methodologies. But what would a postmodern research methodology look like? How could the insights of the postmodern critique be manifested in a method for analysis? In other words, how can educational research be liberated from beneath the "blinding sheet" of the Enlightenment and be allowed to rise and follow the witch's flight?

The initial difficulty is the beguiling ambiguity of postmodernism itself. Sim (1999) suggests that "postmodern" has become one of the most used, and abused, words in the language" and that "few people can say with any sense of assurance what that term 'postmodern' actually means" (p. vii). Pinar, Reynolds, Slattery, and Taubman (2002) have noted, "the three terms – poststructuralism, deconstruction, postmodernism – have been employed interchangeably" (p. 451) but that "at its most general level, poststructuralism, deconstruction, and postmodernism share a rejection of structuralism, humanism, and modernism, a repudiation of the ways various academic disciplines have 'traditionally'

presented their views of reality" (p. 452).

The challenge to reality presented by postmodern thought also calls into question the theoretical foundations of quantitative and qualitative research. For example, Tuhiwai Smith (1999) argues that "the term 'research' is inextricably linked to European imperialism and colonialism" (p. 1). Denzin and Lincoln (2005) also acknowledge that such "[research] is one of colonialism's most sordid legacies" and that "sadly, qualitative research, in many if not all of its forms (observation, participation, interviewing, ethnography), serves as a metaphor for colonial knowledge, for power, and for truth" (p.1). While some qualitative researchers work very hard to eliminate such colonialism, and indeed develop methods that critique that legacy and provide alternative tools of analysis, some of which are more postmodern than others, in the end, as Denzin and Lincoln note, "research, quantitative and qualitative, is scientific" (p. 1) and that "qualitative research involves the studied use and collection of a variety of empirical materials" (p.3).

While postmodern thinkers may incisively and effectively critique "traditional" foundations, what is left on which to base a methodology? Put another way, if postmodernism is based on a "rejection of" – while effective for critique – on what basis does a researcher construct knowledge? Or is the researcher left simply to critique, analyze, and provide commentary on the cultural constructions of others?

Ward (2003) takes a different approach to defining postmodernism. He notes that there is a paradoxical problem with the terms "modern" and "postmodern." The modern suggests the present moment, the current age. Modernism is not tied to a specific

chronological era – such as "The Age of Reason" or "The Medieval Period," which can be given specific dates. Rather, modernism is the age in which we always find ourselves. When something is "modern" it is "current or up-to-date," so Ward asks, "How then is it possible to be *after* the *modern*?" (p.7, emphasis in original). In his view, postmodernism is thus an ongoing *engagement with modernity*, an engagement that in turn changes the modern, which in turn is then re-engaged in a constant process of critique and commentary: modernity is what is, while the postmodern is what challenges and critiques the modern, leading to change, further "modernization," and then further critique. The content changes as the critique changes what the modern becomes, and this leads to both the difficulty and strength of postmodernism – its "fluidity and open-endedness" (p.1).

Ward further suggests, however, that postmodernism can be characterized by a number of "concepts and debates" (p. 6) that form the basis of this ongoing engagement. There are three such debates that are particularly relevant to the work to be done here: 1) the crisis of representation, reproduction, and legitimization; 2) the resulting analysis of power leading to the critique of meta-narratives; and 3) the subsequent critique of rationalism and the dominant meta-narrative of the Enlightenment project. While there are many other themes and debates in postmodern works, these three recur and will be used for this analysis.

One of the key areas of postmodern analysis is in the area of ontology, particularly the question of what is real and how we represent what is real. Appignanesi and Garratt (2004) suggest that with the advent of photography in the late 1800's, the traditional means

of representation – the painting – became obsolete. Artists' endeavours to reproduce reality accurately paled in comparison to the technological accuracy of the photograph. This led to what they refer to as the "crisis of representation" and the movement toward abstraction. The artist no longer painted "reality" but his or her "perception of reality." This shift from the "mirror theory" wherein the representation was an attempt to mirror reality to perception and abstraction reinforced the notion of art based on "unreproducibility" – that is, the work of art is uniquely the work of one artist and cannot be reproduced.

Baudrillard (1994) explored this issue of representation and argued that there are four historic stages in representation. In the first stage, representation is seen as "a reflection of a basic reality" (p. 6) where the assumption is that reality is out there and the representation mirrors that reality. In the second stage, Baudrillard suggests that the representation "masks and perverts a basic reality" (p. 6). In this stage, the basic reality is still there, but the representation no longer "accurately" reflects that reality. The third stage makes a fundamental shift where the representation "marks the absence of a basic reality" (p. 6). Appignanesi and Garratt (2004) give the example of Piero Manzoni who collected his own excrement, put it in a can, and entitled it: "100% Pure Artist's Shit." This was meant to represent not the physical reality of his excrement, but his sense of the exhaustion of art and the subsequent disillusionment. The final stage, according to Baudrillard, occurs when the representation "bears no relation to any reality whatever – it is its own pure simulacrum" and "where reality becomes redundant and we have reached hyper-reality in which images breed incestuously with each other without reference to reality or meaning"

(p. 6).

The crisis of representation, then, can lead quickly to the question of legitimization. For example: "in the early 1960's ... Yves Klein (1928-62) a leading European Dadaist, directed two naked women smeared with blue paint to roll about a canvas on the floor while a single-note 'symphony' played in the background" (Appignanesi & Garratt, p. 37). The postmodern thinker might then ask: Who determines that this is art? Who has the power to legitimize this as something valid and valuable?

The postmodernist most associated with the critique of power is Michel Foucault. Foucault (1970) argues that power is the result of systems of thought, or "epistemes," which control and legitimize behaviour, understanding, and representation. He further argues that there is a relationship, then, between knowledge and power, which oftentimes goes unexamined and is therefore free from critique, and that in order to see and understand these power relationships, individuals need to examine what is excluded, what is suppressed, what is marginalized, since responses to these questions provide clues to the power dynamics at play in any given social context. So it might be asked: Is the concept of magic an acceptable topic for serious academic discourse? Are video games legitimate endeavours of artistic expression, and is the effort we expend in playing them a valid use of our time? The argument for the cultural "illegitimacy" of these topics reveals the contours and assumptions of the dominant "epistemes" as well as the basis of the power dynamics involved. So magic is illegitimate because it challenges the assumptions of science. Video games are a waste of time because they are unproductive (violating the Protestant work

ethic), can be unabashedly violent (even though their violence pales in comparison to the violence inflicted by the industrial, military complex), and they construct a fantasy, i.e.unreal, world of escapism (as opposed to the "real" world we supposedly inhabit).

Violations of the rules of the epistemes reveal the contours of those structures of knowledge and power. Similarly, what we consider legitimate forms of knowledge and discourse are also revelatory, but because we are immersed in those codes of conduct, it is harder to see the contours as clearly. For this reason, postmodernism often "means working without rules in order to find out the rules" (Appignanesi & Garratt, p. 50) at play in any given context.

Epistemes are structures of knowledge and power that find expression in meta-narratives, the overarching set of ideas constructed to reinforce assumptions about truth. "Metanarratives are the supposedly universal, absolute or ultimate truths that are used to legitimize various projects" (Appignanesi & Garratt, p. 103). The Protestant work ethic, the belief in Progress, the survival of the fittest, the ultimate victory of capitalism, the supremacy of democracy, all these are meta-narratives that legitimize certain behaviour and activities and demonize others. Meta-narratives are the means of legitimizating a hegemonic status quo. Postmodernism, however, challenges the legitimacy of the very structures of legitimacy. Lyotard (1984), for example, writes: "I define *postmodern* as incredulity toward meta-narratives" (p. xxiv). This is in contradistinction with the dominant meta-narrative of modernity. Lyotard uses "the term *modern* to designate any science that legitimizes itself with reference to a metadiscourse ... making an explicit appeal to

some grand narrative, such as the dialectics of Spirit, the hermeneutics of meaning, the emancipation of the rational or working subject, or the creation of wealth.... This is the Enlightenment narrative" (Cherryholmes, 1988, p. 10).

This challenge of the supremacy of rationalism is at the core of the work of Derrida as well. Indeed, Appignanesi and Garratt (2004) go as far as to say that Derrida "has waged a one-man 'deconstructionist' war against the entire Western tradition of rationalistic thought" (p. 77). Derrida (1982) argues that there is an assumption that rationality results in "presence" – the idea that the real is truly present when expressed in rationalistic terms. But he points out that the structures of rationalism only create an "illusion of presence" (p. 140) – and that all meaning is "deferred" in language. As Appignanesi and Garratt state:

> Any meaning or identity (including our own) is provisional and relative, because it is *never exhaustive*, it can always be traced further and further back to a prior network of differences, and further back again ... almost to infinity or the 'zero degree' of sense. This is **deconstruction** – to peel away like an onion the layers of constructed meaning (p. 79, emphasis in original).

Deconstruction leads to an awareness of multiple meanings instead of one sure meaning and suggests that certainty is only illusory. As Ward (2003) puts it: "Deconstruction discovers hidden assumptions. There is no 'pure' knowledge outside of society, culture, or language" (p. 103).

Postmodernists argue that "the grand narrative" of modernism is rooted in Enlightenment ideals, such as the assumption of progress, optimism about the increasing accumulation of knowledge, the supremacy of rationality, and a belief in what Ward

(2003) calls "the absolute knowledge in science, technology, society and politics." (p. 9). Postmodernism suggests that exhaustion has replaced progress, that pessimism and irrationality are a more appropriate response to modernity, and "a disillusionment with the idea of absolute knowledge" (p. 10) is characteristic of the debate.

However, if there is no "absolute knowledge," then on what do we base our epistemology? Indeed, if a radical relativity replaces our established ideals of knowledge, can we "know" anything?

Deleuze and Guattari (1994) explore these issues in their enigmatic book *What is Philosophy?* They argue that we all seek refuge from the chaos of the world, the multiplicity of sensations, images, ideas and thoughts that bombard us continually and infinitely. To cope, we erect "the umbrella of opinion" which is our attempt to put some order to the chaos and achieve a degree of control. This umbrella is based on our own experience and the shared conventions of the social network with which we interact. We assume that our "opinion" reflects reality – that our perception is of what is. Not only that, but we superimpose a transcendent dimension to that reality, proscribing it as the reality others should perceive, lest they be considered mad. This transcendent reality becomes the basis of the meta-narratives which, in turn, begin to take control of the "umbrella of opinion" – to the point where the two can become indistinguishable. This is the process of "territorialization" where our opinion and interpretation of our experiences and perceptions are shaped by grand narratives.

Deleuze and Guattari (1994) further qualify their argument. They state: "art,

science, and philosophy require more: they cast planes over the chaos" (p. 202). These planes seek not protection from the chaos, but engagement with the chaos, and they become the "Chaoids": "In short, chaos has three daughters, depending on the plane that cuts through it: these are the Chaoids – art, science, and philosophy – as forms of thought or creation" (p. 208). Each of the planes explores different dimensions of the chaos and organizes concepts in different ways: art through composition, science through reference, and philosophy through the "plane of immanence." The implication is that there is a fluid relationship, not absolute or eternal, between reality and chaos, and between art, science and philosophy.

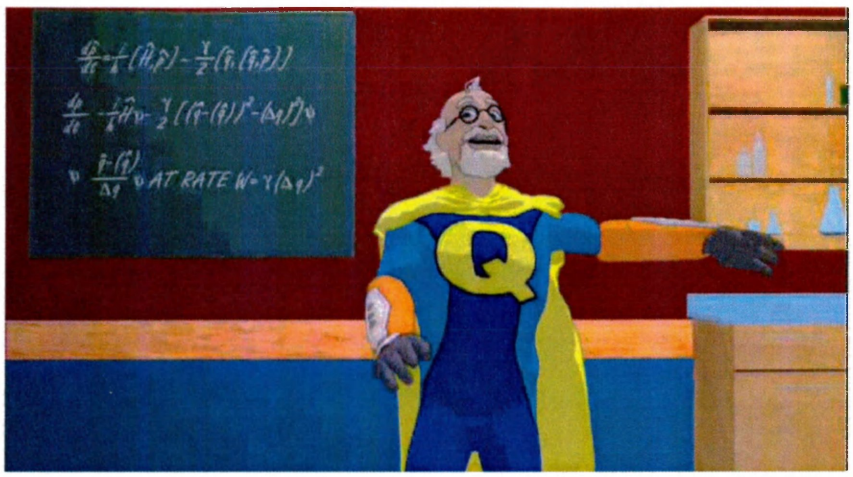
Art, science and philosophy are distinct from each other, however. Art works with "percepts" (perception) and "affects" (emotions), while science seeks to reduce reality to operational "functives" – referential variables that can be controlled and measured, and which describe material relationships. In as much as science has "territorialized" common "opinion," the plane of science can claim to be reality. But the planes of art and philosophy can serve the function of "deterritorializing" reality by suggesting there are other planes of understanding that are not material, nor subject to functive measurement. Philosophy, for Deleuze and Guattari (1994), then, is the "discipline of creating concepts" (p. 5); and these "concepts are like multiple waves, rising and falling, but the plane of immanence is the single wave that rolls them up and unrolls them" (p. 36). In creating these waves of immanent concepts, "the illusion of transcendance" (p. 49) is deterritorialized and we are freed from the control (or the protection) of the meta-narratives.

Science reduces reality to propositions, measurable variables, and linear arguments. But if reality is more than that, if reality is also "multiple waves," "affects and precepts," and abstract concepts, how can we represent them purely scientifically? Science needs linearity, but reality is not linear. Even words explode with alternative possible meanings – differences – so how can reality be represented in sentences? Deleuze and Guattari (1987) suggest that it cannot, and that we can only represent reality metaphorically. But even with metaphors, we need to find ones that can capture the multiplicity of meanings available concurrently, what they call a "rhizome metaphor" – a metaphor where "any point of a rhizome can be connected to anything other, and must be" (p. 7). But how can we do this? What metaphor allows us to represent multiplicity concurrently, that connects what science sees as disparate and reducible elements to an interconnected whole? Curiously, perhaps, an answer may come from science itself.

Quantum Considerations

At the turn of the twentieth century, scientists began to explore the realms of relativity and quantum physics. The discoveries challenged the assumptions of modern science, and offered a means to represent reality in a postmodern way. Quantum physics creates concepts that might help address the postmodern problem – and most certainly provide us with some rhizmomic metaphors. In order to understand the rhyzomatic possibilities of quantum physics to resolve some of the postmodern difficulties, we need to explore a few quantum concepts that are derived from some rather unusual experiments.

First, there are the remarkable findings of the "Double Slit Experiment":



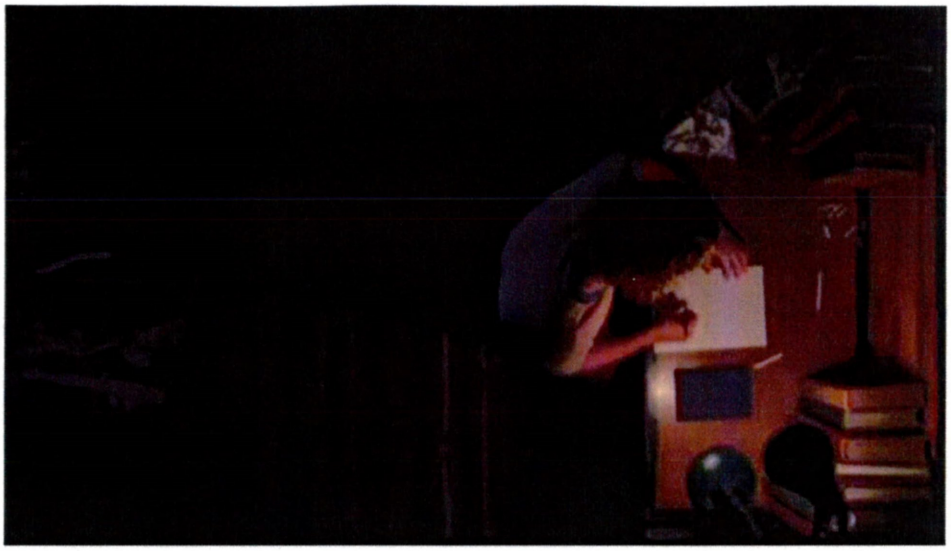
Video Clip 1: "What the Bleep" (2006), Double Slit - 5:07

Click on all video clip images to play videos.
When curser is over the image, a controller will appear.
When the curser is moved off the image the controller will disappear

The double slit experiment demonstrates that there is no objective observation of phenomena, and that the very act of measurement changes what is observed. At a very fundamental level this means that all research is based on relationships, all knowledge can only be known in relationship, and that "what is" is not a constant, but exists in a fluid relationship with the world around it. It also means that the philosopher, the "friend of wisdom," may be more in touch with reality than the objective scientist who is seeking to control variability in functives, while changing the variables in the process. But if this experiment is curious, the work of Dr. Masaru Emoto is even more startling:

Video Clip 2: "What the Bleep" (2006), Water – 3:38

Again, the environment around matter changes matter. Thought, intention, ideas, change the physical characteristics of the world around us, and the meta-narrative of Enlightenment Science is severely challenged. There is no static, material world to objectively observe, but a malleable world that is influenced by something as nebulous as intention. How can this be? As we venture deeper into the quantum world, we discover that the world itself is not constructed by inert matter, but by energy. Indeed, current theory suggests that the smallest particle of matter is really made up of strings of energy:



Video Clip 3: "The Elegant Universe" (2003), Strings - 2:14

Reality, then, is not inert matter to be observed and quantified, but instead is made of waves of energy, as found in the even more bizarre experiments and concept of "entanglement." In this video clip, "Captain Quantum" explains entanglement theory, and Dr. Jeffrey Satinover elaborates about experiments where researchers are able to demonstrate a particle being in more than one place at the same time:

Video Clip 4: "What the Bleep" (2006), Entanglement – 4:19

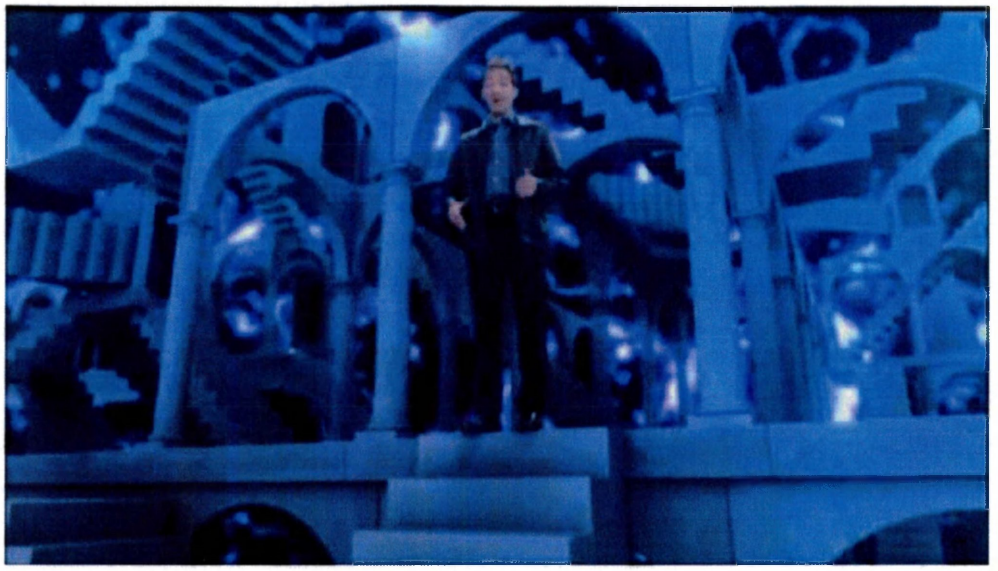
So how might we make sense of all of this? Are we beginning to see the chaos that Deleuze and Guattari speak of, the chaos from which we seek to shield ourselves?

Quantum scientists have derived two theories to make sense of these experimental phenomena. The first is that reality is an almost infinite variety of *possibilities* that *collapse* into unitary *experience*. So, while "what is" may be innumerable possibilities, we experience only one of those possibilities when they collapse through observation:

Video Clip 5: "What the Bleep" (2006), Multiple Realities – 00:24

This process of collapsing is essential if we are to be able to live our lives.

The second theory quantum thinkers use to explain this strange new universe is multi-dimensionality:



Video Clip 6: "The Elegant Universe" (2003), Dimensionality – 1:18

Reality, then, may very well exist on dimensions that are not accessible to us purely on a physical, sensory level. We may need multiple intelligences, alternative modes of understanding, and certainly imagination if we are to access those extra dimensions.

In some respects, these quantum theories may metaphorically address the problem of postmodernism. The difficulty that we have acknowledged so far is that while postmodernism effectively critiques the notions of truth, absolutes, and any sense of static meaning, we have difficulty living in a world of such radical relativity. Perhaps the metaphor of collapsing possibilities into unitary experience is particularly worthwhile here. While we need to acknowledge that reality is more than our experience, in order to live our lives we need to collapse the possibilities into unitary experience. This unitary experience, however, is not based on a static, materialistic, objective universe, but on a flowing, fluid universe of infinite possibility. While our experience may be unitary, we

live with an awareness of the multi-dimensionality of the world around us, where there are dimensions that go beyond our observation and even experience.

The Contours of Postmodern Research

So we return to our original question: What might a postmodern methodology look like? First of all, postmodern analysis is suspicious of the positivistic assumptions of the Enlightenment meta-narrative. Therefore it more freely examines elements of "low culture" and areas that "normally" would not be considered worthy of serious, academic research – such as magic and video games. In doing so, the postmodern inquirer learns about more than just the topic at hand, but by breaking the rules of serious academic research, gains insights into the assumptions of the dominant meta-narrative (Appignanesi & Garrett).

Second, by challenging the assumptions of the dominant narrative, the postmodern researcher seeks to uncover the power dynamics involved in territorialized discourse. It is worth remembering that, "Foucault is saying that power isn't what some possess and others don't, but a tactical and resourceful *narrative*. Power is the texture of our lives – we *live* it rather than *have* it" (Appignanesi & Garratt, p. 87, emphasis in original). This shift in perception suggests that postmodern research is not just about critiquing meta-narratives, but recovering personal narratives that become subsumed by the meta-narratives, a process by which we lose our awareness of our personal power. Postmodern research, then, seeks to deterritorialize the meta-narrative and empower us by reconnecting us to the narrative that is the texture of our lives.

Third, postmodernism leads to an emphasis on the "vernacular" of collapsed experience, with "an emphasis on the local and particular as opposed to modernist universalism," which means "a return to ornament, with references to the historic past and its symbolism, but in the ironic manner of parody, pastiche and *quotation*" (Appignanesi & Garratt, p. 116, emphasis in original). Instead of there being a precise, discursive language that supposedly describes reality *as is*, there are a variety of *dialects* which describe reality from a multiplicity of perspectives. A universal understanding is replaced by individual and multi-cultural renderings of reality, and a linear expression of those realities is replaced by a montage of significances, that include ironic references to the past and a bricolage of ideas, metaphors, images and concepts.

Fourth, the postmodern researcher is not only suspicious of the meta-narratives that inform modern research, but seeks a fuller exploration of the alternative planes of discourse – the philosophical and artistic. The postmodern researcher is by necessity a "creator of concepts" who uses "percepts" and "affects" along with the concepts to construct a fuller, multi-dimensional view of reality. Indeed, Deleuze and Guattari (1994) suggest that "art" has a privileged place among the "Chaoids" because it links philosophy and science. Science endeavours to represent the contours of the material, while philosophy creates abstract concepts from a plane of immanence. But art endeavours to embody the abstract through stories. Stories are philosophy that take concrete form. The purpose of postmodern research is to challenge the territoriality of science by exploring the conceptual and artistic as well. Therefore, instead of linear argument that proves a rational proposition,

postmodern research presents what Deleuze and Guattari refer to as a survey of the territory, an "assemblage" of artistic and conceptual images and ideas.

Resonant Validity

If postmodern research eschews the traditional rules of social scientific research, if it allows research to be presented conceptually and even fictionally, how can we know if it is valid or worthwhile? This final question, as we explore postmodern research, gets at the issue of legitimization. If the postmodern researcher is the creator of concepts, how do we determine whether or not the concepts have any validity? If the criteria of truth is suspect, if there are no absolutes to refer to, if there is no objective reality with which to check for correspondences, then how can we determine if a concept is a good one or not? Even Deleuze and Guattari (1994) realize that not all concepts will necessarily be good concepts. So what is the criterion for evaluation in postmodern research?

Deleuze and Guattari make the intriguing comment: "... what strange becomings unleash music across its 'melodic landscapes' and its 'rhythmic characters,' ... by combining the molecular and the cosmic, stars, atoms, and birds in the same being of sensation?" (pp. 169-70). Earlier they suggest that "concepts are centers of vibrations, each in itself and everyone in relation to all the others" (p. 23) and that "concepts are grouped according to whether or not they resonate or throw out mobile bridges" (p. 77). So perhaps "resonance" can be a criteria we use for the evaluation postmodern research? The question is no longer "Is it "true?" or "logical" or even "experimentally valid," but rather, "Does it resonate with you?" Clearly this is more in line with the postmodern emphasis on the local and particular,

as opposed to the universal. Some concepts will resonate with some, and not others.

This is not a new concept. In 1987, Metzner wrote an article entitled "Resonance as Metaphor and Metaphor as Resonance." In it he wrote: "Resonance determines what we see and what's reflected, what's absorbed and what sinks in. Things and people can respond to many different frequencies, not just to a single note; the harmonics and overtones add richness and depth to the resonant interchange" (p. 37). He talks about "metaphorical resonance" where the "original sound is reflected back as echo and continues to oscillate between the two objects," "cognitive resonance" where "our thinking is harmonious, our minds attuned to each other," and "affective resonance" where sympathy, antipathy and empathy are manifested in harmonious, discordant, or concordant ways (p.39). He also points out that, prior to the Enlightenment project, the worldview included the possibility of resonant meaning, and how the "fathers" of the Enlightenment, Newton, Bacon and Kepler, were conversant with alternative and even occult epistemologies. For example, "Kepler devoted more than a decade to the attempt to prove the Pythogorean analogy of the planets as a resonating musical instrument ('harmony of the spheres')" (p. 40). Metzner is clearly influenced by Berman (1981) who suggested that the Enlightenment project led to the " 'disenchantment of the world,' and the loss of a worldview of 'resonance, resemblance and incredible richness'" (in Metzner, p. 40). But Metzner also notes that even Newton believed in "sympathetic forces, which Newton saw as the creative principle, a source of divine energy in the universe" (p. 40).

Metzner (1987) is not alone in his use of resonance as a metaphor of meaning

and understanding. Abraham (2006) explores the mathematical and spiritual connections of resonance in a paper entitled "Vibrations and Forms" where he traces "the vibration metaphor for levels of consciousness" through different traditions of thought. This returns us to the mathematical realm of quantum physics, for the cornerstone of quantum physics, as we have seen, is that matter is not material or inert, but a flowing construction of resonant strings.

In her book, *Lyric Philosophy*, Zwicky (1992) seeks to find a resonant form for her research, juxtaposing discursive writing with either complementary or discordant quotations which invite the reader to find resonances, harmonies and dissonances. She writes, "Resonance here is a root metaphor. To sound an utterance in a resonant thought-structure is, among other things, to produce sympathetic vibrations of varying intensities throughout – to cause other utterances to sound, some less faintly; some more" (p. 62).

Resonance, then, introduces the individual and the particular into the equation of significance. Something cannot mean something on its own; it must resonate with a recipient. There is a mutuality to the exchange – what is said, or written, or expressed must form a loop with the listener, reader, or critic. The harmonies or dissonances only occur within the context of this exchange. Those with different experiences, languages, or cultural sensitivities will interact with the same artifact differently. Some music will follow rules of coherence and unity, maintaining beat and meter, and using conventional forms for the music. Other music, as Ward (2003) suggests, breaks those rules and creates music that speaks to another culture and generation. He writes: "In music we have the

common practice of sampling in rap, hip-hop, and various forms of electronica. There is also scratching and mixing as a form of musical customization or *bricolage*" (p. 158, emphasis in original). Meaning, then, is replaced by appreciation and relationship – one "relates" to the music through the experience of resonance.

Resonance calls into question, however, current discursive criteria of legitimization. Zwicky (1992) refers to the work of Rosen, who notes: "The cause of our disquiet is above all the rigid linear dogmatism of so much contemporary theory; the insistence that the generating or central idea of composition be conceived only in linear terms, mostly; indeed, as a pure arrangement of pitches without regard to rhythm, intensity, and texture" (in Zwicky, p. 67). She also recognizes the implications of such a shift from linear thought to resonance. She raises a standard objection: "'But what a mess! For one thing, adopting some of these 'metaphors' would lead to hopeless confusion of the existing disciplinary boundaries. They're more applicable to works of art than to philosophy.'" But she then responds to her own objection: "One way of looking at the problem is to see that it is precisely those boundaries that are in question" (p. 26).

This messiness marks the postmodern – the questioning, the blurring of the boundaries, the opening up to the multiplicity of possibilities, so that we can discover the operative rules, the cognitive power structures, the meta-narratives that have territorialized our lives. Postmodern research does not attempt to "prove" anything; rather it presents a bricolage, collage, assemblage, even an improvisation of images, concepts, textures, and sounds, and invites the reader to explore the resonances.

In *Skinny Legs and All*, Painted Stick and the Conch Shell were placed in the cave in Montana in ancient, pre-axial times. As Robbins (1990) describes it:

> ... the Priestess found just the right hiding place. It was a small cave. The cave had a niche in it, and the priestess hid our shell and stick in the niche, but first she rubbed them in a particular way that put them into a trance. They were programmed not to wake up until they felt a certain familiar energy. That would be the signal that the era of Rome was finished and the earth was returning to its senses (p. 307).

Postmodern research invites the "listener" to wake up from the sleep that is Enlightenment thinking, to throw off the sheet that restricts his or her view of the larger world, and be lifted up as in a dream – to follow the witch's flight.

Summary

This chapter began with a discussion of the challenge postmodernism brings to the research endeavour. Traditional educational research, based on modernist terms is effectively challenged by the postmodern critique. This critique opens up a space where discourses on fringe or forbidden topics can be examined, like video games. However, postmodernism is also a rather beguilingly ambiguous a term, meaning different things to different people, so I established for the purpose of this work, three postmodern issues to be discussed: the issues of representation, power, and Enlightenment values.

Representation looks at how reality is presented and how we evaluate whether those representations are true and valid. This leads to the issue of power: who determines what is true and valid, and the means by which such validity is established. This led to a discussion of how power can be leveraged through meta-

narratives that establish the contours of modern meaning. The postmodern critique, however, challenges some of the underlying values of those meta-narratives, such as linear logic, materialism and scientism, and allows us to conceptualize alternatives.

For this, I looked more closely at the work of Deleuze and Guattari (1994) and their philosophical methodology. They proposed that, instead of accepting the meaning derived from meta-narratives, we can generate concepts that exist on a plane of immanence, suggesting a more fluid and flowing understanding of reality.

I compared this philosophical view to the views coming out of the study of quantum physics, and noted that quantum physics also challenges modernist views of reality and leads to a more fluid, uncertain understanding of the world around us. Quantum physics posits a multi-dimensional reality that collapses into a unity upon observation. The researcher, then, does not describe a full reality, but rather generates a conceptual plane out of all the possibilities.

This led to a concluding discussion of the notion of "resonance." If we cannot determine the validity of an idea through purely scientific (quantitative or qualitative) measures, the contemporary researcher needs to establish a new criteria for evaluation. What I have suggested is a criteria of resonance, whereby the reader looks for places in the research which resonate with them. Obviously, there are no absolutes here. What resonates for one reader may not be the same for the next. Indeed, for some readers there may be no points of resonance at all in a particular work. But by establishing resonance as a criteria, relationship replaces rationality as the measure. Deleuze and Guattari note that a philospopher is a "friend of knowledge" - *philo-sophy* - (p. 2), and that, therefore, all who seek to explore reality

from a philosophical perspective must enter into a relationship with the ideas and concepts presented. The world is not presented objectively, or from a distance. Our subjective feelings and experiences become a legitimate part of the research. This affords us the opportunity to escape the limits of modernist constructs, and opens up for us a new world of possibilities.

One of those possibilities is to re-examine concepts and ideas that were discounted by the Enlightenment to see if they have any resonance in our postmodern world. In the next chapter I will reach back to pre-Enlightenment times to examine a world before materialism and the "barrenness of matter" and explore a time when spirit and magic infused the world.

Chapter Three

"Bridges Between Possibility and Reality": Magic as Transformation, Imagination, and Reconnection

> *"As the World Tree stands, so stands its child, the sanctified stick. Shamans climb it. Maidens dance around it. Men use it for pointing. It points to thunder, to comets, to the migrating birds... to the hidden face of God. Sometimes it points to you."*
>
> (Robbins,1990, pp. 63-64)

Winston Churchill is commonly credited with saying that "History is written by the victors" (http://www.finestquotes.com/author_quotes-author-Winston%20Churchill-page-0.htm). The same can be said of the history of ideas and concepts. If the grand meta-narrative of the Enlightenment project has been conceptually "victorious," we need to recognize that those ideas and concepts that preceded or challenged Enlightenment ideals are now seen through the values and assumptions of that meta-narrative. Magic is a good example. The associations we have with the concept of magic – indeed, with the word itself – is thoroughly conditioned by the rationalistic, scientific reductionism that marks the Enlightenment project. Modernity associates magic with irrationality, superstition, feeble mindedness, and charlatanism. Stivers (2001), for example, says that "magic represents the childish dimension of human existence that adulthood does not fully repress. We wish for things, but reality intrudes upon our fantasies and frustrates their realization" (p. 2). Implicit in this understanding is that magic is childish, the repressive forces of adulthood are good, and that fantasies have no place in reality – where reality is

material and substantive, while fantasy is ephemeral and insubstantive.

What is forgotten in this modern view is the substantial and pervasive history of magical worldviews across cultures and even within the development of the Enlightenment itself. Key philosophers, and even scientists, studied and practiced the magical arts before the central premises of The Enlightenment project – objectivity and the elevation of dispassionate rationality – became dominant. Francis Bacon believed in occult forces, Johann Kepler was comfortable with astrological principles, and John Newton was conversant with the elements of alchemy (Ball, 2006). This suggests that it might be instructive to go back and understand magic from the context of its own values and assumptions – and not the assumptions of the Enlightenment Project that sought its elimination. Magic tells a different story than that of modernity's victorious meta-narrative.

Thomas Moore (1982) has suggested that magic provides alternative "bridges between possibility and reality" (p. 159) – different ways of connecting ourselves to a much larger world, a world of will and imagination, a world of creativity and passion, a world of fantasies and dreams. To our modern minds, the magical is unreal. But to anyone with a more creative sensibility and a desire to go beyond the constraints of modernity, magic represents access to realms of transformation, imagination, and reconnection.

Astrology

Marcilio Ficino was a Renaissance priest, doctor, scholar, writer – and a magician. It is a testament to the victory of the Enlightenment project, with its movement toward

specialization and its denigration of magic, that the latter role is seen as incongruous with the others, but during the Renaissance these roles would have been seen as complementary. Among Ficino's many talents and interests, he is best known for his philosophical writings about astrology (Moore, 1982).

We associate astrology in our modern world with silly horoscopes in the newspaper that offer trite, generic advice that could apply to anyone – and many condescendingly pity those foolish people who give them any credence. In 1966, a group referring to themselves as "199 leading scientists," headed by Bart Bok, Lawrence Jerome, and Paul Kurtz, wrote an article denouncing astrology (Bok, Jerome, & Kurtz, 1975). The manifesto, signed by eighteen Nobel Prize winners as well as 181 others, expressed the view that "in ancient times people believed in the predictions and advice of astrologers because astrology was part and parcel of their magical world view" but that "one would imagine, in this day of widespread enlightenment and education that it would be unnecessary to debunk beliefs based on magic and superstition" (p.5).

However, as the postmodern philosopher Feyerabend (1978) points out, such a statement simply dismisses astrology with "an argument from authority" – as if to say, "we are the educated, award-winning scientists and we say this is nonsense." They fail to say why astrology is foolish or offer evidence to support their claim. Feyerabend, while not endeavouring to justify astrology, still offers some arguments for why astrology might be worth reconsidering. For example, he points out that the rotation of the moon moves the tides, large bodies of water on our planet, so why is it hard to imagine the movement

of the moon affecting human bodies – which are made up of over 60% water? Because 199 scientists say so? Astrology has been marginalized by the dominant meta-narrative, making it worthy of postmodern analysis, and it is here that Ficino is so valuable.

For Ficino, astrology was a complicated study of the relationships "between astral phenomena and the human body or material objects ... and the study of the correspondences between stars, precious stones, plants, and metals" (Culianiu, 1989, p. 152). Ficino believed that knowledge needed to include not just our relationship with material objects, but the celestial realm as well. The key is the study of relationships. In the magical world view, all is interconnected, so we as humans are connected to the stars as well. This cosmic relationship found expression in Ficino's fascination with "the music of the spheres" to which he devoted a volume of his writings. As Moore (1982) points out, "one of the most striking powers of music is its capacity to produce a *multidimensional image* .... The total impression produced by a piece of music has dimensions of space and time qualified by a specific spirit or atmosphere, a highly differentiated sense of movement, and accompanying emotion. It also has, of course, an intricate structure appealing to the intellect" (p. 87). This multidimensionality of music corresponds to our experience of life as well. Again, as Moore puts it, "Like music, life is built up of episodes and motifs, these are based on more universal scales and modes ..., counterpoints and harmonies fill life as do climaxes and cadences, and finally melodies correspond to our unique personal histories" (p. 88). Ficino puts it more magically: "Through the ears the soul perceives certain harmonies and rhythms, and through these images it is exhorted and excited to

consider the divine music with a more ardent and intimate sense of mind" (in Moore, p. 88).

The "music of the spheres," the celestial realm, provides us with multidimensional images that synthesize time, space, movement and emotion – as well as thought – and astrology is the study of these cosmic relationships where the magician/musician listens for moments of resonance and dissonance, harmony and disharmony. Such exploration takes place, then, in a multidimensional space wherein the imagination is essential. Moore gives the example of listening to a piece of music. He writes: "The listener cannot stand back, as from a painting, and analyze. Music professors do that as a strategy in pedagogy, but even they, when they truly listen to music, must become absorbed by it. One is *in* the image, not outside of it" (p. 89, emphasis in original). Thus, there are many dimensions involved here: the physical dimension of the music being played, the interior dimension of being "absorbed" by the music, and even a pedagogical dimension. Yet the interior dimension, the sense of being *in* the image or absorbed by the music, has no literal place. It can only be accessed and referenced *imaginatively*.

Imagination is the second key to understanding Ficino and astrology. Magic is knowledge acquired through imagination, which, Moore points out, may be difficult for the modern mind. He states: "It may be difficult but it is not impossible to carry Ficino's insight forward into the twentieth century. Our first guide is Ficino's own fundamental tool – imagination. Ficino's psychology is expressed in images rather than logical, linear statements" (p. 23). For example, Ficino (1959) takes the physical phenomenon of

sunlight and expresses its power in the following way:

> Rays can impress wonderful occult powers on images, as they do on other things. For they are not inanimate like rays of lamps; rather, they are living and sensate like eyes shining in living bodies. They bring wonderful gifts with them from celestial imaginations and minds, as well as strength and power from the configurations and rapid movements of these bodies. They incite in the spirit, effectively and appropriately, a reproduction of celestial rays. (p. 533)

An imagistic epistemology allows us to make correspondences between the inner and the outer, the macrocosm and the microcosm, the social and the psychological. The imagination allows us to understand the world in a more whole, multidimensional and artistic manner. It allows the student to see connections and relationships beyond the material and logical, and include knowledge legitimized by resonance, feeling, and intuition.

With such additional "knowledge," the individual is able to discover and develop, what would be called in Renaissance times, his or her "virtu" - the "individual's total development of himself [sic] beyond all limits and the shaping of his life into a work of art" (Moore, 1982, p. 32). The study of astrology, then, and the magical presuppositions it is based upon, is a study of the outer, celestial realm, that leads to insight and cultivation of the inner, psychological realm, which further leads to an individual cultivation of "virtu," an enhanced social understanding of "virtue," and ultimately as we shall soon see, the dawning of an imaginative, creative realm of limitless possibility we call the "virtual."

Incantations, Bindings, and Spells

One of the functions of magic is to create a reality where the interconnectedness of all things can be seen and known, and where the individual has a sense of power in

the resulting physical, symbolic and social network. Incantations, bindings and spells contribute to this sense of connectedness and power.

Binding explores the symbolic potential of the act of fastening together and how this potential is symbolized by knots, tapestries and nets. A knot can provide a strong mooring that can be the source of safety and security. A tapestry can order disparate threads of a variety of colours and create a meaningful and even beautiful pattern. A net can be cast in order to secure sufficient food and even wealth. But there is another side to binding as well. We can become captivated by the forces of binding, tied up and imprisoned by powers seen and unseen. We can become entangled in social and symbolic nets which can restrict our freedom. So magic explores the means of binding, and the means of loosening the bonds as well.

Spells and incantations can form a bond, an attachment to a power or potentiality that makes us stronger. Incantations and spells are predicated on the belief that words have power. As Ludwig (1989) notes, they help "situate man [sic] in a context of rituals that integrate him with nature and the order of the cosmos" (p. 193). By understanding the underlying nature of an interconnected world, we gain a sense of power and control over that world. The key to this understanding is the esoteric knowledge of names, for as Barba (1989) points out, "the basis of the power of spells is the primitive idea that nothing exists without a name and that to know the names of things is to possess them" (p. 217). We all construct masks, personae and aliases that we show to others and the world. But for a spell to have any power, the true name must be invoked – the authentic self must be

a part of the connection for any incantation to take hold and transform. The "true name" of someone or some object is therefore kept hidden, and everything is known by its alias or assumed name. To discover that real name gives power to the knower – and makes the known vulnerable.

Epistemology can be seen as an endeavour to learn the authentic names of things instead of aliases. Science endeavours to find the true names of objects and often renames common elements accordingly (e.g. people are called *homo sapiens*). But science is limited to the examination of the seen, the physical world. Magic, on the other hand, endeavours to understand the true names of the unseen, of metaphysical forces, and the dynamic processes of interconnection. These forces cannot be measured – they can only be invoked. Magic, then, explores what happens when spells are cast, when words that have power are spoken, and when we try to exercise some influence on the powers that control us. What magical spell allows hegemony to operate so effectively? What incantation is pronounced that keeps us captive to interests that exploit and manipulate so many? What binds us to an economic order that impoverishes a majority of the world's population and threatens to destroy the planet? And what magic will it take to loosen those bonds?

Elixirs

Mircea Eliade (1976), one of the leading scholars of comparative religions, suggests that the appeal of the occult and esoteric is its promise to re-connect the modern to its "Adamic privileges" – humanity's powers and place in the cosmos (p. 50). This presupposes that there was a time before our modern age of alienation and materialism

where there was no death, where all were healthy, and where all had equal access to the powers of the cosmos. In the biblical tradition, this pre-existing utopian state was called "The Garden of Eden" – although other religions and esoteric traditions had similar places and symbols of wholeness and perfection.

As Coudert (1989) puts it: "In religions, myths, and fairy tales, the fantasy has prevailed that there exists, somewhere, a plant, fountain, stone, intoxicating beverage, or noxious potion brewed in a witch's cauldron, that rejuvenates the old, cures the sick, and confers wealth and eternal life on those wise, lucky, or cunning enough to snatch a bite, a sip, or a sniff" (p. 248). Elixirs, then, offered the possibility of "returning" to an Adamic state of perfection by means of an elixir made by extracting the "quintessences" of base materials.

Elixirs represent, however, more than just magical substance. In a magical world in which elixirs are sought and believed to be efficacious there is a more malleable connection between the material world and the spiritual world. Indeed, elixirs were seen in the Chinese tradition to be "a kind of permanent glue, keeping body and soul eternally united, and thus preserving 'spirit'" (Coudert, 1989, p. 251). So elixirs did not bestow eternal life on someone. Rather, they re-connected the individual with the eternal.

The magic of elixirs is the magic of possibility. While the material pursuit of transubstantiating elixirs may have proven futile, the notion still had power. As Coudert (1989) suggests: "the exhilarating idea that a substance exists that can free men [sic] forever from poverty, sickness, and death has provided a powerful spur to religious, philosophical,

and scientific thought" (p. 251). It is the idea, then, not the physical reality, that has power, exemplifying Riceour's (1967) notion that "the symbol gives rise to thought" (p. 347). So it is that the magical symbol gives rise to powerful thoughts that stretch our ideas of what is possible.

Geomancy

Geomancy, in its most basic form, is the interpretation of shapes and patterns – in some ways, it is an ancient form of conceptual analysis. In Eastern cultures, geomancy could take the form of a process of divination where the geomancer would interpret the significance of the patterns caused by the casting of sand on the ground, or in the ancient and now revitalized art of *feng shui* where the relationship between physical objects and cosmic forces were interpreted and manipulated for positive outcomes (Bourguignon, 1989). In Western cultures, geomancy took the form of a complex system of binary oppositions in which "markings grouped into sixteen combinations of four positions" (Bourguignon, 1989, p. 191) created two hundred and fifty-six combinations tied to verses memorized by the diviner. But as Bourguignon (1989) points out, "the aim of this practice is not to divine future events but to discover the supernatural causes of present situations and their remedies" (p. 191). So in some respects, geomancy and science have common goals – the determination of underlying causes and dynamics. However, science restricts itself to the material world while geomancy is open to the possibility of cosmic forces and vital energies being at play.

Three magical principles underlie the practice of geomancy. The first is the

medieval notion of "macrocosm and microcosm." The medieval dictum "as above, so below" indicated a belief that a pattern could be discerned in both the smallest of phenomenon as well as the most cosmic. In the seed is the flower, and we can know about the flower by examining the seed, just as we can know about the seed by examining the flower. Medieval philosophers, astrologers and alchemists "believed that the processes that occurred in living bodies (the microcosm) were reflected by those in the cosmos (the macrocosm), and vice versa" (Ball, 2006, p. 140). This notion of macrocosm/microcosm serves as an analogical and metaphorical DNA that permeates magical thought.

The second magical principle involved in geomancy is the belief in the "vital forces" of the universe. Objects such as stones or pebbles, even grains of sand, were not merely material composites of static atoms. They also contained spirit, energies, cosmic forces. This is most evident in the practice of *feng shui*, a system that endeavours to interpret those forces in relationship to the physical configuration of objects in our environment. "This system," suggests Bourguignon (1989), "concerns the distribution over the earth, by winds and currents, of various terrestrial and atmospheric emanations that are believed to exert important influences on people" (p. 192). The interpreter of those shifting patterns of emanations works to create a "balance" between forces that leads to health and prosperity for the individual or community.

The third magical principle involved in geomancy is the idea that the interpretation of these patterns and shapes, this relationship between objects and vital energies, can be used to transform one's environment – indeed, transform the world. The geomancer uses

formulaic verses in conjunction with the distribution of the pattern not only to understand the underlying forces involved but also to manipulate them. As Ball (2006) points out, "outward similarities signal a correspondence between inner virtues" (p. 142). The discernment of those virtues is the first step in realigning the world in such a way that balance can be re-established.

While Ball (2006) also points out that "the belief in cosmic correspondences was by no means necessarily incongruent with science" (p. 141), scientific reductionism refuses to acknowledge the possibility of vital energies or cosmic forces. Without those forces, geomancy falls apart, and no longer makes any sense. Geomancy, the interpretation of the patterns and shapes, is reduced to geometry, the measurement of shapes and patterns. Thus "meaning" is reduced to "measurement," the ancient formulas reduced to superstition, and the optimistic notion that we can interact with the vital energies of the world, creating a cosmic balance, is replaced by a materialist determinism where the only control we can hope to exert is on the physical world.

Amulets and Talismans

An amulet is an object carried on the person or displayed in one's home that serves the purpose of warding off evil powers, while a talisman serves the function of enhancing the potentialities of the bearer. They are, therefore, material objects with a spiritual power, and they represent the belief that "the inherent quality of a thing can be transmitted to human beings by contact" (Gaster, 1989, p. 145). Often, a single object is both an amulet and a talisman, representing the two sides of spiritual powers. It presupposes

that objects have an underlying power, and that indeed we live in a spirit-filled world in which numerous "powers and principalities" are at work. Moreover, those powers are transferable, and mere contact can pass on those powers.

Talismans and amulets can take the form of unique or attractive objects, like precious stones, or objects associated with particular qualities, such as phallic symbols that suggest fertility and abundance. They can be rare, as in a four-leaf clover, or common, such as Robbins's Painted Stick or sacred Conch Shell. They may be textual, where the name of a god or power is secretly written on an object. Here, again, the power of the name is essential. Some talismans or amulets are worn as bracelets or broaches, and it has been suggested that this magical tradition was the genesis of jewelry (Gaster, 1989, p. 146). If so, this would be another example of Enlightenment science and rationality reducing a magical element to mere ornament, something with the power to possess the wearer becoming a trivial, material possession.

In a world where all objects are imbued with spirit, the powers of talismans and amulets make sense. To the modern mind, which sees stones and rabbit's feet and four-leaf clovers as mere inanimate objects, such ascription of power is absurd. Still, even in the modern world, people carry rabbit's feet, they covet four-leaf clovers, they revere statues of saints, and they ascribe special significance to an object that comes from a loved one. Even if it is not rational, our connection to our talismans and amulets remains intact, and they symbolize how the spirit world can still possess us.

Alchemy

Our understanding of alchemy provides another example of how the dominant meta-narrative of modernism reduces and dismisses magical processes that were formerly respected and even revered. Alchemy is represented by the modern meta-narrative to be the trivial, material pursuit of transforming base metals into gold, something only the gullible would believe in. But alchemy in pre-Enlightenment times had a much more spiritual transformative goal.

Philip Theophrastus von Hohenheim, known to his contemporaries as Paracelcus, was a Swiss doctor during the Renaissance. He also was a famous alchemist. Paracelsus lived during a time of great social upheaval. The Reformation was creating profound social divisions that undermined the authority of the dominant institution of the day, the Church. Political intrigue thrived, with city states challenging the central authority of the Holy Roman Empire. New mining technologies were not only creating a new class of wealthy citizens, whose new wealth was beginning to challenge the old aristocracy, but also increasing the interest in metals and their chemical compounds. Before the Renaissance, knowledge, both geological and medical, was acquired through authoritative books. Geological understanding was based on Aristotle's "Great Chain of Being," for example, and medical knowledge was based on the classical writing of Gallens. One became "knowledgeable" by reading those books and applying them to the situation at hand. It was a case of philosophy first and application in the world later.

But the genius of Paracelsus and his magical worldview was to search for

knowledge in the world itself, believing that in the microcosm (an instance) could be found the key to the macrocosm (all of reality). As Ball (2006) puts it, Paracelsus' worldview conveys "the strangeness and the beauty of a magical universe, a world created by a loving God, where marvels and mysteries lurk under every rock and behind every hill" (p. 275). This exploration of the microcosm, then, is the pre-cursor of science for it necessitated "the shift from knowledge being attained through books, and knowledge being attained through experimentation and experience" (p. 41). As the historian Frances Yates puts it, "the Renaissance Magus is the immediate ancestor of the seventeenth century scientist" (in Ball, p. 8).

This exploration of the world led not only to the realization that the classical texts did not necessarily correspond to the physical world (e.g. Gallen's anatomical diagrams did not always correspond to what was discovered during actual dissections), but also that the observable could not solely be explained by the observable – that is, one could take apart the constituent pieces of something, but there was an unobservable dynamism that could only be explained in other ways (Ball, 2006). "Beyond the superficial chaos of mundane existence," says Ball, "the Neo-Platonists insisted there lies an insensible and some sense divine web of forces and correspondences that account for it all," that explains the dynamic nature of reality (p. 145). Drury (2000) puts it this way: "In medieval alchemical thought, each individual person consisted of spirit, soul, and body, and to this extent contained the very essence of the universe as a whole" (p. 24). Hence, imagination was essential to a magical worldview for it provided the means to further explore the realm

of the unobservable and its relationship to the observable world. Imagination allowed the alchemist to posit dynamic relationships between the parts, but more than that, to influence them. So the alchemist not only endeavoured to explore and understand the world, the alchemist also sought understanding in how to transform the world.

Hence Paracelsus, the doctor, used his alchemical knowledge in his practice of medicine. He believed in "the efficacious power of the imagination" and that imagination not only explained dynamic relationships between physical parts of the body, but that "the imagination produces the effect" on the body (Ball, 2006, p. 309). So for Paracelsus, the "four pillars of medicine" were philosophy, astronomy, alchemy, and virtue, where philosophy and astronomy provided the imaginative context of his medical knowledge, alchemy provided the experimentation with compounds and their transformative effects, and virtue was an expression of the skill of the physician (Ball, p. 235). This represents a more holistic approach to the practice of medicine, one in which belief, knowledge, experience, virtue and skill are constituent parts.

All of reality could be transformed, according to the magical worldview, and alchemy was seen as an agent of renewal. The alchemist sought not the transformation of base metals to gold, as the modern view has reductively suggested, but as one medieval alchemist put it, "he [sic] pursues this Art, not for the sake of gold or silver, but for the love of the knowledge that it reveals" (Drury, 2000, p. 23). Magical alchemy, then, is an epistemological alternative to knowledge based on authority, where imagination is combined with experimentation in order to achieve transformation.

In summary, then, alchemy represents a different way of knowing, an alternative epistemology, where:

- Knowledge is based on imagination;
- Knowledge is based on experimentation *and* art;
- Knowledge includes the categories of soul, spirit and virtues;
- Alchemy is the knowledge of transformation – how to change the qualities of something to create something else, including processes such as distillation, sublimation, coagulation, extraction and composition;
- The agent of transformation/transmutation is "the Philosopher's Stone," a mysterious agent with the power to change reality;
- Alchemy is based on a view of the world that is more fluid, malleable, and changeable.

The anthropologist Malinowski (1954) has suggested that "magic ritualizes man's [sic] optimism" (p. 90). The Enlightenment project took from alchemy its experimental method and its optimism, but transposed it to a purely material universe. The result was a belief in the "infinite progress" of the scientific world: the material world can be dissected and manipulated, and nothing can stop the progress made by the rational examination of the universe. But it cut off that optimism and experimentation from a holistic and enchanted universe in which imagination, spirit and virtue were essential parts. The Enlightenment project took alchemy, cut it loose from its philosophical moorings, and characterized it as a crass and foolish endeavour to physically change base metals into gold. The result was science. But in doing so, science was created without a soul.

Conclusion

Moore (1996) wrote:

> Those of us who have been brought up in a secular culture, sometimes complemented with a religious belief system, don't realize how much of our lives have been impoverished by the lack of magic.... What's missing [in modern life] is the penetrating enchantment of every experience that rises out of a world that is alive and that has deep and mysterious roots of power. (p. 369)

He argues that it is the suspicion of this power that has led to magic's denigration and misrepresentation, and argues that "in many cultures, the magus speaks of magic as a means of exercising power, but in a society where power means dominance over others and personal gain, magic's goal of power may be misunderstood" (p. 396).

The Enlightenment project represents a shift in power from a broader understanding of reality where power is derived from an imaginative relationship with an animated world around us to one focused on rationality, utility, and the consolidation of power in the hands of those who wish to use it for intellectual and economic dominance. As such, science represents a meta-narrative that endeavours to undermine the efficacy of other narratives by a process of reductionism. So alchemy, the noble attempt to seek cosmic transformation by digging under the surface and exploring the relationships of natural elements to human existence is reduced to a foolish and greedy attempt to make gold out of base metals. Similarly, astrology, with its endeavour to seek a connection to the cosmos through the exploration of our relationship with heavenly bodies is reduced to nonsensical newspaper horoscopes. In a like manner, geomancy, amulets and talismans,

elixirs, and incantations, spells and bindings are characterized as mere superstition. The means of this reductionism is literalism and materialism. By eliminating the realms of spirit, imagination, and cosmic connection from the existential equation, magical elements are seen through the Enlightenment lens rather than a magical lens, and from a scientific perspective, magic, by definition, makes no sense.

But if human expression is freed from the limits of materialism and literalism, magic can once again make sense – and be a source of power. As Yates puts it: "The magus enters with loving sympathy into the sympathies which bind earth to heaven, and this emotional relationship is one of the chief sources of his power" (in Moore, p. 371). So magic is about those areas of knowledge that science chooses to ignore, the realm of emotion, imagination, and even love. As such, it is closer to Deleuze and Guattari's "fictive" reality – the reality that finds expression in art – than the reality constructed by rationalism and science.

But how can the concept of magic be rehabilitated after centuries of misrepresentation by science? Abram (1996), in his *The Spell of the Sensuous*, presents what might be called a "phenomenology of magic" that seeks to do just that. He argues that we in the modern world have lost touch with the natural world around us, and that there is a connection between that loss and the loss of the magical meta-narrative. Using the experience of the shaman in his research, he suggests that the magical power of the shaman is:

> the ability to readily slip out of the perceptual boundaries that demarcate his or her particular culture ... in order to make contact with, and learn from, the other powers in the land. His magic is precisely this heightened receptivity

> to the meaningful solicitations – songs, cries, gestures – of the large, more-than-human field. Magic, then, in its perhaps most primordial sense, is the experience of existing in a world made up of multiple intelligences. (p. 18)

Abram makes note of Husserl's assertion that there is "a profound instability in the scientific worldview, resulting from the continual clash between our scientific convictions and our spontaneous experience" (p. 42). Magic, then, attempts to reunite us with the legitimacy of our experience, and it does so by emphasizing the power of our interconnectedness, our imagination, and our ability to enter into a relationship with the unseen and unknown.

The key to reincorporating magic into our world lies in the same "intersubjectivity" that underlies phenomenology. Phenomenologists address the difficulties of allowing experience to determine reality by relying on this notion of intersubjectivity. How can I know if my experience is true? If I see a table and think that it is white, and everyone else sees a table and perceives it as black, is my experience flawed or is everyone else's? Intersubjectivity allows me to enter into a relationship with those around me to check my perceptions. Thus truly to know something, I must be in relationship with other perceivers. This reciprocity enables me to be part of a community and not just live in a reality of my own perception. Similarly, in magic, we enter into a reciprocal relationship with the entire, animated world. In this way, magic can be seen as "an attunement or synchronization between my own rhythms and the rhythms of the things themselves, their own tones and textures" (Abram, 1996, p. 54). So magic is not imagination untethered: it is imagination that is in a reciprocal relationship with an animated world that vibrates with its own reality and perception of the world.

This tethered resonance allows us the possibility of what Cheney (1999) calls "'knowing with' the earth" (p. 145) where we can enter into a dialogue with the inanimate world. Instead of "knowing about" something, we can enter into a relationship with it. Rocks and stones vibrate with significance. At their most fundamental, quantum level, they resonate in relationship with the other strings of energy that surround them. They offer to us an expanded realm of intersubjectivity where our reality is validated not just by other people, but by the world at large.

One of the "veils" in Robbins's (1990) novel is the veil that shields us from penetrating the stillness of inanimate objects and appreciating their significance. So the Painted Stick and Conch Shells are talismans, not mere objects. The Conch Shell:

> is the voice of Buddha, the birth-bed of Aphrodite, the horn that drives away all demons and draws lost mariners home from the sea.... The conch shell is primal geometry. Its perfect logarithmic spiral coils from left to right around an axis of fundamental truth. A house exuded by the dreams of its inhabitants, it is the finest example of the architecture of the imagination, the logic of desire. (p. 61).

And Painted Stick is a part of "The World Tree" that can be used for celebration and navigation – it gathers us together in relationship and it points us in sacred directions. As Robbins puts it: "It points to thunder, to comets, to the migrating birds... to the hidden face of God. Sometimes it points to you" (pp. 63-64).

Robbins (1990) also suggests that we ignore the inanimate world at our peril, for "the inability to correctly perceive reality is often responsible for humans' insane behavior" (p. 72). Behaviour, for example, that treats the environment and everything in the world

like inconsequential objects, instead of affording the inanimate world the respect one would expect of those who see themselves in relationship. For Robbins, one of the veils drops when "inanimate objects – and plants and animals – resume their rightful place in the affairs of the world. How long can humankind continue to slight these integral pieces of the whole reality?" (p. 88).

So, to conclude this chapter, what are the key elements of an epistemology that acknowledges magic?

First, magic is about perceiving the realms beyond scientific knowledge through multiple and different intelligences. It reverses the Enlightenment project and endeavours to de-emphasize the place of logic and rationality as the sole arbiters of reality. Second, magic is about relationships and how we are connected to a far greater reality than science has been willing to acknowledge, a vibrating, resonating world of objects, plants and animals. Third, magic is about the power of imagination, and how imagination can re-create our worlds. This leads to the fourth element of magic – its power to transform. Magic is not just about perceiving the world in a more imaginative way, it is about changing the world, indeed, saving the world from the unintended consequences of the Enlightenment project. In all of this, magic serves "virtu" – the spirit within all of us that seeks full expression, not just as material, sentient beings, but as works of art, embued with both power and beauty. For once re-connected to this power, whatever is imaginable becomes possible. Thus we become re-united with our lost "Adamic" powers, and magical abilities

once lost are regained. Abram (1996) quotes the story of an Inuit woman, who as late at the twentieth century said:

> In the very earliest time
> when both people and animals lived on earth,
> a person could become an animal if he wanted to
> and an animal could become a human being.
> Sometimes they were people
> and sometimes animals
> and there was no difference.
> All spoke the same language.
> There was a time when words were like magic.
> The human mind had mysterious powers.
> A word spoken by chance
> might have strange consequences.
> It would suddenly come alive
> and what people wanted to happen could happen –
> all you had to do was say it.
> Nobody could explain this:
> That's the way it was. (p. 87)

This passage exemplifies a pre-axial world-view in which the material world is malleable, where words have magical and mysterious powers, and the inanimate comes alive. It was not a world of merely rational explanation but of wondrous participation. When we re-connect to this world, we regain our power.

The phenomenologist of religion, Eliade (1987) suggests that the imaginative worldview of magic allows us to cover "both sides of the gulf between the seen and the unseen, the known and the unknowable, because the image or symbolic gesture participates in both the inner realm of fantasy and in the outer realm of concrete expression" (p. xi). He, therefore, calls magic "the science of hope" because "it cultivates the human capacity to face the future – and all other forms of the unknown, hidden reality. Magic allows hope

to become a dominant, concrete force in structuring the world and restructuring time and space" (p. xi). In this manner, magic can be seen as an epistemology of the unknown, an epistemology of hope.

Summary

In this chapter, I "reached back" to a time before the Enlightenment, before the values of materialism, reductionism, and scientism began to predominate. I pointed out how magic makes sense in the context of a worldview where imagination and spirit are accepted and valued.

With the Enlightenment, however, magical elements soon were discredited. Astrology was no longer considered a serious mode of cosmic inquiry but merely a quaint, if silly, pastime. Incantations and spells, long believed to have unique powers, were shown to be powerless. Elixirs, amulets and talismans, once agents of re-connection with the world, were reduced to superstition. Alchemy, once a grand and noble pursuit, was represented as a fraudulent sham.

Such magical arts, however, represented a more imaginative, multidimensional, and spiritual world, where power is derived from connection to the world and the cosmos. This power opens up new possibilities in the construction of reality, empowers us to go beyond the limits of a purely scientific point of view, and to discover our "virtu." These possibilities find expression in virtual reality, and in what I will now examine – visual digital culture.

Chapter Four

Postmodern Magic in Image, Interaction, and Immersion: A Conceptual Framework

> *"On her small canvas, she recreated a section of the Crazy Mountains, the range near Livingston that they had admired earlier that day; that is to say, she recreated the mountains not as she had originally seen them but as she eventually chose to see them, for a person has not only perceptions but a will to perceive, not only a capacity to observe the world, but a capacity to alter his or her observation of it – which, in the end, is the capacity to alter the world, itself. Those people who recognize that imagination is reality's master, we call 'sages,' and those who act upon it, we call 'artists.'"*
>
> (Robbins, 1990, p. 102)

If magic, as Moore (1982) suggests, is about building "bridges between possibility and reality" (p. 159) and postmodernism, as Delueze and Guattari (1994) suggest, is about the conceptual throwing out of "mobile bridges" (p. 27), what connections might there be between magic and postmodernism?

Ward (2003) summarized the common themes of postmodernism as concerns over *representation*, *power*, and the dominance of *linear rationalism*. The crisis of *representation* arises from the technological advances of photography and videography where exact, mirror-like representation appears possible, calling into question the place of the traditional artist and the role of representation itself. Is what is real what can be seen, or is there a reality beneath or beyond the seen? Does abstract art better represent the fuller reality of something, or should meaning be brought to the surface? *Power* is an issue of legitimization. Who decides what is true and valuable? Who makes the determination between "high" and "low" culture – or even the validity of the distinction itself? Finally,

postmodernism challenges the assumptions of the Enlightenment project, where *linear rationality* is made supreme by the Enlightenment meta-narratives. What other narratives might be told that create different realities?

Similarly, magic is concerned not only with the representation of the image but with the imagination itself. What is the relationship between the image and imagination? Does magic serve the function of bringing hidden secrets out into the open – making the unseen seen? Magic is also concerned with power – how the imagination has power, how differing views of reality can change the status quo and lead to transformation, but also how that power is not a "power over" but a "power in relationship" with a broader world that includes trees, rocks, stars and oceans. Finally, magic is about the multi-dimensionality of reality and the "multiple intelligences" required to perceive it more fully. Instead of privileging rationality, magic not only challenges linear logic by means of its figurative and imaginative manner of expression, but forces one to call on other capacities for meaning-making.

All of this finds expression in what Darley (2000) calls "visual digital culture." Visual digital culture is the contemporary means of cultural expression. Whether it be the music video, the cinematic blockbuster, the thirty-second ad on TV, or the video game, there has been a significant shift from literary culture to visual digital culture, from the page to the screen. Some, like Sample (1998), suggest that perhaps ironically this can be understood as a move back to oral culture. He recounts an experience in a subway station where he overhears one teenage girl say to another: "Have you *seen* the latest

Michael Jackson song?" (p. 47). How can you "see" a song, he asks? In visual, digital culture one can – and, indeed, that is how more and more people are appropriating not just songs but all cultural artifacts. Visual digital culture includes not just words, but also images, movement, beat, music and more. In this respect, it better represents the multidimensionality of magic and the postmodern challenge to the total sufficiency of rationality and linear logic.

Darley (2000) argues that the three main themes of visual digital culture are *image*, *interactivity*, and *immersion*. In this section, I will construct a conceptual framework that examines *image* in relationship to postmodernism's concern about representation and magic's reconnection with the imagination, *interactivity* as an issue of power and a means of re-visioning empowerment, and *immersion* as the necessary condition for engaging reality on a multidimensional level, using multiple intelligences that challenge the hegemony and privileged status of linear logic.

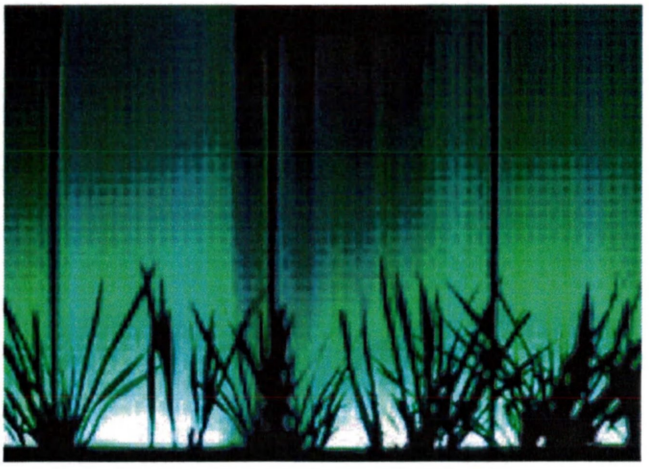
Image

Visual digital culture represents a change in how we engage with the world around us. The meta-narrative of the Enlightenment engendered a culture that privileged a rational, linear and literate way of understanding the world. The difference is more clearly evident as we look at younger people in our society who have been surrounded by visual digital culture since birth. Sample (1998) recounts the differences between his children, who were brought up in "a wired world," and the literary, college education that was instrumental to his understanding of the world. He writes:

> Our children never knew a world without TV. But it wasn't only that. Their music was not understandable, and they did things with their bodies that made me realize – to be sure, sometime later – that they were "wired with circuits" we did not have.... They also seem to learn differently and to approach things from another angle on life. Their memories worked in another format, and their thinking did not do analysis the way I had learned in college. They did not do critical thinking, at least the way I had been taught. I had been raised in an oral culture to think in proverbs, stories, and communal relationships and then educated in a literate culture to think in theory, conceptualization, and linear discourse, they engage the world through images, through sound as beat ... and through visualization. (p.14)

To Sample, educated with Enlightenment values, theirs "is a strange world" – but this is the world of visual digital culture.

Perhaps, a visual example would help. Let us take a look at a viral video, posted on the Internet, that explores the question, "What is an idea?":



Video Clip 7: "IdeaBlob" (1:56)

Elements of visual digital culture are evident here. Instead of a discursive, linear discussion, or a thesis statement defended by a carefully crafted argument, this treatment

of the question of what constitutes an idea uses quickly moving images, an engaging soundtrack, and carefully placed questions to provide an evocative exploration of the question. Are we any closer to an answer to the question? Discursively, no. But in some respects, this is a fuller treatment of the question, for it engages us at multiple levels, it intrigues and holds our attention, and there is an appeal in what is said – even if we do not know why. This video seduces us as much as answers any questions, but it is a powerful means of evoking thought. It also raises a larger question – a question that is central as we discuss visual digital culture and the new world being created by "life on the screen" (Turkle,1995, p. 1) – how do we visualize ideas?

In discussing research done with math teachers, Snyder (1995) was surprised to find that many of the teachers were resistant to the traditional teaching of math concepts by logical proofs, indicating that their students found visual arguments more convincing. He writes:

> Visual reality has become more real, and thus more convincing, than rational argument or mathematical proof. This signals a turning point in cultural perception. Perhaps it means that increasingly a person or group's worldview will be literally that, a world*view*, not a set of arguments or ideas or concepts. Here is an example of postmodern perception. Yet in some ways it is closer to premodern and "primitive" perceptions than to modern ones. (p. 115, emphasis in original)

Snyder is making a key point here. The shift from "rational argument and mathematical proof" to a "visual reality" marks a shift from rationality in isolation and seeks to integrate the visual and sensory into the equation. This challenges the self-sufficiency of the Enlightenment project and, like magic and postmodernism, expands our understanding of

what "proves" something.

Darley (2000) traces the current influence of the visual, of image and media, to the late nineteenth century and the advent of the "magic lantern show" (p. 41). Technological advances had made the projection of images, even moving images, possible, and this led to popular entertainments and "spectacles" such as The Phantasmagoria, The Panorama, and dioramas. Illusion replaced, if only temporarily, mundane reality. These had the effect of fascinating and exciting audiences who likened the amazing images they were seeing to "magic" (p. 42). One of the unique art forms of the era, the *trompe l'oeil,* was particularly instructive to Baudrillard. He argued that these images had in them "the capacity that leads to the total destabilization of the (Modern) notion of and belief in reality: they constitute 'a kind of game with reality' – they are examples of what he terms 'enchanted simulation'" (in Darley, p. 63). Still, the main function of these art forms, according to Darley, is to create a "spectacle " – something that evokes fascination, even "shock and astonishment" (p. 46), that engages the viewer's curiosity and imagination, but that doesn't necessarily "mean" anything. The spectacle is an end in itself.

With the advent of the cinema, the magic lantern show reached new levels of sophistication and visual illusion, but for Darley (2000), the cinema also represents the ascendancy of narrative. As this amazing technology developed, the importance of spectacle was replaced by a desire for narrative – a good story – in which the image served the narrative. Darley sees this shift being reversed by visual digital culture, however. With the advances in visual technologies, he argues, come movies like *Terminator 2*, *Toy*

Story, and *Transformers* have put "visual magic" in the forefront and relegate the narrative to a placeholder for special effects; the spectacle returns as the prime purpose of the art.

From a modernist perspective, this might seem unfortunate, for it makes the image superficial. But the critique of superficiality presupposes a hidden depth, and postmodernism suggests that such depth may be the illusion. The return of spectacle, then, may be a necessary and important conceptual shift. Baudrillard (in Darley, 2000) speaks about "the discredited depth model" (p. 71) in which "'reality' is never more than a world hierarchically *staged*" (p. 64, emphasis in original). Reality is better represented, then, by a surface layering, like the images of the *trompe l'oeil*, where there is no deeper meaning than what is seen.

An ancient art form, *trompe l'oeil* creations represent reality through illusions. Some are relatively simple, like this cathedral ceiling that appears to be open:

Figure 3: Mantegna, Oculus on the ceiling of the Spouses' Chamber

Others seek to blend reality with fantasy, like this painting that shows a realistic garden

trellis that appears to open at the end into another world:

Figure 4: "End of the world" in the gardens of Schwetzingen

Others, are more evocative, like del Caso's *Escaping Criticism.* In this painting, the boy seems to be emerging from the picture itself. It gives the impression of a third dimension, but the multi-dimensionality is perceptual, not physical. This perceptual reality is the key. Science sees reality on a physical plane, but when combined with imagination, perception allows us to see other realities:

Figure 5: del Caso, Escaping Criticism

A more contemporary example would be the famous Demi Moore *Vanity Fair* cover, in which the actress seems to be dressed in a tuxedo, but really is naked:

Figure 6: Cover of Body Painting: Masterpieces By Joanne Gair featuring Demi Moore

In all these examples, what one thinks he or she sees is actually an illusion. One needs to look twice. "What you see is what you get," but what you get may be an illusion. The Demi Moore example is even more intriguing. The clothing is the illusion, and when one looks more closely, one sees the opposite, not a clothed person but a naked person. Looking more closely at the surface allows one to strip away the illusion, the veil drops and one is shocked by what he or she sees. The significance is on the surface. It is not somewhere deeper, or unseen. The key is not its depth but the viewer's perception.

Jameson also talks about how "depth is replaced by surface" in which meaning gives way to *intensities* (in Darley, 2000, p. 69). In the modernist meta-narrative, depth is good and superficiality is to be scorned. But in the postmodern world, "'depth' is just a surface effect, and … superficiality can be 'deep'" (Ward, 2003, p. 69). More importantly,

the superficial can be *intense*.

Accordingly, a closer examination of the image, the surface, what is seen, is important. Darley (2000) suggests that there are stages in the development of representation through images. The first stage attempts to represent the world as "realistically" as possible, creating images that are almost photographic ("Can I create an image that looks exactly like something in the 'real' world?"). The second stage is the representation of reality through computer animation ("Can I simulate the world through computer technologies?") The third stage is "illusionist realism" ("Can I create an illusion of something that looks 'real'"?) This last stage is where the image enters the realm of magic. For computer technologies now allow us to "photograph the impossible," to take something from our imaginations that does not exist and visually represent it. We see this all the time in movies and television. "Transformers" do not exist! But they sure look realistic in the movie. So this creates a new mental space, where we see something and believe it is real, even while we know it is not real. This is the space of magic. Where our imagination becomes real. Where what is hidden below, surfaces.

Visual digital culture can raise what is hidden and bring it to the surface. We no longer find meaning *beneath* the surface but *beyond*. For visual digital culture expands the boundaries of reality, making real anything that can be imagined.

Interactivity

If the beginning of postmodern magic lies in the image, where the imagination can become real, the power of postmodern magic lies in the interactivity of visual digital

culture.

According to Darley (2000) visual digital culture begins with spectacle – the magic of visual technologies that bedazzle, fascinate and provoke wonder. The cinema quickly appropriated the "technical alchemy" (p. 100) of the "magic lantern show" but soon centered the spectacle around narrative. The image became the means by which the story is told and the spectator receives the story through the images. But with the advent of interactivity, the viewer is put *"into the image"* (p. 149, emphasis in original), no longer a passive recipient of the producer's meaning. For example, in the video game *Oblivion*, the main character begins his journey in a prison cell, and sees the world around him from that perspective. What he sees and does next is up to the player. The player is in the middle of the image, and the resulting perspective is dependent on the player's choices. The player does not have to follow the prescribed narrative, but can follow his or her own story line. This transfers some of the power of the media to the consumer instead of just the producer.

In postmodern terms, replace "narrative" with "meta-narrative" and the fundamental shift in power becomes more apparent. When the image serves the meta-narrative, it gives the power to the producer – as the meta-narrative is the source of power. Those who can create the spectacle, who can embed the meta-narrative in the imagery, gain power over the spectators. But a "de-centring" of narrative leads to a "re-centring" of the spectator, and the key to this is interactivity. As Darley (2000) puts it, interactivity "appears to give the traditional spectator entry into the fictional world: no longer merely a viewer, the player also becomes a doer" (p. 158).

While Darley expresses concerns about this shift, noting that the short shrift story gets in a video game represents an "impoverishment" of narrative, he also expresses some optimism that narrative and spectacle, form and content, image and story need not exclude the other. Indeed, the promise of visual digital culture, for Darley, lies in the integration of the two.

Justification for Darley's (2000) optimism can be found in what Jenkins (2006) calls "convergence culture" (p. 2). Jenkins notes as well that contemporary media represents a shift from spectators being "consumers of culture" to "contributors to culture" (p. 136). Examining contemporary phenomena as wide-ranging as the reality TV show *Survivor*, the almost cult followers of the movie *The Matrix*, the reading craze prompted by the *Harry Potter* books, as well as the reactionary religious attempt to ban them, and the machinima phenomena that extended the *Star Wars* series, Jenkins shows how interactivity with previously packaged images leads to a new empowerment, where consumers are given the tools to become creators themselves.

In the case of *Survivor*, Jenkins (2006) explores the online community that tries to figure out the conclusion of each year's competition before the final episode airs by pooling resources and expertise and sharing these on the internet. In doing so, the experience of the television show is expanded beyond passive consumption and expands the experience. Indeed, the online community has changed the experience. For Jenkins, this is an example of what Pierre Levy calls "collective intelligence" whereby the knowledge and expertise of people around the world converge. Jenkins (2006) writes:

> Convergence occurs within the brains of individual consumers and through their social interactions with others. Each of us constructs our own personal mythology from bits and fragments of information extracted from the media flow and transformed into resources through which we make sense of our everyday lives. Because there is more information on any given topic than anyone can store in their head, there is an added incentive for us to talk among ourselves about the media we consume.... None of us can know everything; each of us knows something; and we can put the pieces together if we pool our resources and combine our skills. Collective intelligence can be seen as an alternative source of media power. (p. 4)

While such interactivity with the media may "de-centre" the pre-packaged story, it also represents an "expanding of the storytelling experience" in which "new story structures" are created. We can see this in existing cross-media productions, such as the *Matrix*. The *Matrix* story is told in a trilogy of movies, comic books, online web sites, video games, and print commentaries. It represents what Jenkins calls "transmedia storytelling" where not just a particular story is told, with beginning, middle and ending, but a world is created. Thus storytelling becomes "the art of world making" (p. 115).

As an example, let us take a look at another viral video that visualizes this theme of "world-making" power:

Video Clip 8: "WorldBuilder" (9:15)

This video visuals the power of the individual to create worlds, and not simply worlds of physical structures, but worlds that also construct emotional responses. Visual digital culture allows us to not just view other worlds, but create them. It also allows us to alter the worlds we have been given.

This is what the main character in *Skinny Legs and All* discovers. She is an artist, but when she creates, she interacts with what she seeks to represent – indeed, what she represents is her experience of the sight. This gives her "not only a capacity to observe the world, but a capacity to alter …her observation of it – which, in the end is the capacity to alter the world itself" (Robbins, 1990, p. 102) Just as the power of magic can be found in the power of the imagination, the power to "alter the world itself," so the magic of postmodernism is the ability to create one's own narrative and choose it instead of the modernist meta-narratives provided by hegemonic powers of society. This is the key to postmodern magic, and as Robbins notes, "those people who recognize that imagination is

reality's master, we call 'sages,' and those who act upon it we call 'artists'" (p. 102).

The creativity of fans who seek to interact, and transform, digital culture is even more manifest in the online community that arose around the *Harry Potter* series of novels. Fans enchanted by the Rowling's (1997, 1998, 1999, 2000, 2003, 2005, 2007) narratives created online extensions of the storylines. One fan created a popular website that purported to be the daily newspaper of Hogwarts, *The Daily Prophet.* This virtual newspaper allows fans to write stories that expand on the narrative of the books. Other sites allow fans to write stories from the perspective of any of the less central characters. In providing these opportunities, new narrative opportunities are created for fans to interact with the main story, and perhaps more importantly, other fans. The sites become laboratories for literacy, and the magic in the story is transferred to the magic of participation. As Jenkins (2006) puts it, these sites represent "another important cultural literacy: role-playing both as a means of exploring a fictional realm, and as a means of developing a richer understanding of yourself and the culture around you" (p. 185).

Not all *Harry Potter* sites are purely literary. An activist group called the HP Alliance appropriated the story and created a website which encouraged readers of the fantasy realm to relate "the books' magical events as allegories for real world issues" (Jenkins, 2006, p. 206). For example, they draw the following parallels:

> Genocide, poverty, AIDS, and global warming are ignored by our media and governments the way Voldemort's return is ignored by the Ministry and Daily Prophet.
>
> Our governments continue to respond to terror by torturing prisoners (often

without trial) just as Sirius Black was tortured by Dementors with no trial.

> A Muggle Mindset pervades over our culture – a mindset that values being "perfectly normal, thank you very much" over being interesting, original, and creative. (p. 207)

Interaction with the media, then, takes the original story and expands it, both on the level of the story itself and on one's interaction with the real world. Just as the student-magicians interact with Hogwarts itself, engaging with paintings that come alive, walls that shift, and stairs that change direction, contemporary readers can interact with the story and the world evoked – and be transformed through that interaction. It is a powerful phenomenon that has the potential to be both world-making and world-changing.

The ability to interact with visual digital culture's artifacts goes beyond the expansion of pre-existing stories. Often the technologies involved can be used to create something totally new. Machinima is a good example. Machinima is a combination of "machine" and "cinema" where the technology of the video game is used to create new cultural artifacts. By using the interactive elements of a game such as *Sims City 2*, the gamer can create new scenes, new characters, new storylines, new camera angles and movement, and record them to disk. These files can then be edited into a completely new production. Some games allow these "hacks" to be made available to other gamers, while others allow videos to be created and uploaded for others to view. Essentially, the technology puts the rudimentary tools of movie-making in the hands of individuals, resulting in both amateurish and puerile content as well as amazingly sophisticated creations.

Ultimately, this is the magical power of visual digital culture – where technology not only allows the imagination to become real, but where the power to do so lies not in corporate centres with the vast resources to make media hegemonic and propriatorial, not in the kind of magical power that endeavours to establish dominance, but the magical power of creativity that is available to all, and that can be collectively exercised – not the power over, but the power of networks and relationships.

As Jenkins (2006) points out, "right now, we are mostly using this collective power through our recreational life, but soon we will be deploying those skills for more 'serious" purposes" (p. 4). He notes: "Out of such play ... new kinds of political power will emerge which will operate alongside and sometimes directly challenge the hegemony of the nation-state or the economic might of corporate capitalism" (p. 29). While it may seem frivolous now, interactivity gives postmodern magic its power. As Jenkins puts it: "Play is one of the ways we learn, and during a time of re-skilling and reorientation, such play may be much more important than it seems at first glance. On the other hand, play is also valuable on its own terms and for its own ends. At the end of the day, if ...[play] wasn't fun, [gamers, bloggers, fans and machinima directors] wouldn't do it" (p. 29).

Immersion

The third component of visual digital culture, according to Darley (2000), is immersion. If magic begins with the imagination, and is empowered by interactivity, it finds full expression in immersion.

Virtual worlds create immersive environments in a variety of ways. Full scale

virtual reality installations like C.A.V.E. create a space where one is fully encircled by a virtual realm, where one can move and interact fully with an imaginary environment. Other environments use 3D glasses, high-tech helmets, or advanced gloves to enhance the virtual experience. But in visual digital culture, immersion is created by a technologically mediated *synesthesia*.

Synesthesia is commonly considered to be a neurobiological disorder where there is a confusion of the senses. Take the case of Daniel Tammet (2007), who associates numbers with colours, places with textures and sounds. Wednesday, for example, is a blue day for Tammet. This disorder gives rise to some incredible abilities. Tammet is able to recite "the mathematical constant Pi from memory, to 22,514 decimal places" (p. xiv). How he does so, however, is quite fascinating. It is not just a process of memorization of a sequence of numbers, but rather a recollection of different color patterns that are associated with numerical groupings. It is through this integration of different sensory acuities that he is able to do what most of us would consider impossible.

Flynt (2006) takes a more general view of synesthesia. "Synesthesia," he writes, "is sometimes characterized as a condition that arises when one sensation evokes another. Some people smell, taste, or hear colors. Another notion of synesthesia gives it metaphorical flavor. For example, people talk about a color or a sound as hard or soft" (p. 291). Abram (1996) goes even further. He suggests that synesthesia is a "blending and overlapping of the senses" that represents the "concerted activity of *all* the body's senses as they function and flourish together" and that "our primordial, preconceptual experience, as Merleau-

Ponty makes evident, is *inherently* synaesthetic" (p. 60, italics in original). Abram points out that pre-literate cultures are more attuned to the multi-sensory interconnectedness of experience than our own and refers to research done by European scholars on the use of mescaline by indigenous tribes in ceremonial practices in North America. Those scholars noted that:

> The influence of mescaline, by weakening the attitude of impartiality and surrendering the subject to his vitality, should ... favor forms of synasesthetic experience. And, indeed, under the influence of mescalin, the sound of the flute gives a bluish-green colour, [and] the tick of a metranome, in darkness, is translated as grey patches .... A subject under mescalin finds a piece of iron, strikes the window-sill with it and exclaims: "This is magic"; the trees are growing greener .... Seen in the perspective of the objective [Cartesian] world, with its opaque qualities, the phenomenon of synaesthetic experience is paradoxical. (p. 61)

According to Abram, synaesthesia is integrally related to a phenomenological view of the world because it involves all of the senses in relationship with the world around it. He sees the body as an "open circuit" (p. 62) where eyes, ears, fingers, mouth and nose all are open until connected to the outside world, a connection that closes the circuit and joins the perceiver and perceived into an experience. Indeed, he argues that in this way sensory "participation is the very structure of experience" (p. 130). Thus, all experience, indeed all reality, is predicated on relationship.

Because of the bi-cameral nature of our bodies, even one sense can be synaesthetic. We have two eyes that provide two views and so Abram (1996) suggests that "vision itself ... is already a kind of synaesthesia, a collaboration of different sensory channels or organs" (p. 126). Even written language begins as a combination intersensory connection:

"Alphabet reading, then, proceeds by way of a new synaesthetic collaboration between the eye and the ear, between seeing and hearing," (p. 125) he says, and there is a relationship between "spelling" and the "casting of spells" (p. 133). But the shift from the multi-sensory relationship with the world to the uni-sensory focus on the word has had significant implications. By disconnecting us from the sensory world, we have become alienated from the "synaesthetic engagement" we should have with the world around us. He writes:

> Direct, prereflective perception is inherently synaesthetic, participatory, and animistic, disclosing the things and elements that surround us not as inert objects but as expressive subjects, entities, powers, potencies.
>
> And yet most of us seem, today, very far from such experience. Trees rarely, if ever, speak to us; animals no longer approach us as emissaries from alien zones of intelligence; the sun and moon no longer draw prayers from us but seem to arc blindly across the sky. How is it that these phenomena *no longer address us*, no longer compel our involvement or reciprocate our attention? If participation is the very structure of perception, how could it ever have been brought to a halt? (pp. 130-131, emphasis in original)

Abram suggests that a new "locus of participation" has been created to replace the magical experience of our ancestors – the written word. But the shift comes with a cost:

> As a Zuni elder focuses her eyes upon a cactus and hears the cactus speak, so we focus our eyes upon these printed marks and immediately hear voices. We hear spoken words, witness strange scenes or visions, even experience other lives. As nonhuman animals, plants, and even "inanimate" rivers once spoke to our tribal ancestors, so the "inert" letters on the page now speak to us! This is a form of animism that we take for granted, but it is animism nonetheless – as mysterious as a talking stone.
>
> And indeed, it is only when a culture shifts its participation to these printed letters that the stones fall silent. Only as our senses transfer their animating magic to the written word do the trees become mute, the other animals dumb. (p. 131)

The shift to literate participation from sensory participation may silence the animate

world, the world of spirit and the powers, but they can regain their voices in visual digital culture. In visual digital culture, animals talk, trees express their opinions, and the sun and moon do more than just arc repetitively and mechanically – they once again can become the focus of prayer and reverence. The cactus can once again instruct, we can see visions and dreams become realities. Visual digital culture does not preclude or replace literate culture, but offers a expansion of the synaesthetic experience with which we stand in relationship to the world around us.

Like the magical world, in visual digital culture meaning is conveyed through experience – experience that comes to us in electronic form. And as Sample (1998) maintains, these media "store meaning in convergence" (p. 78). Sample writes:

> [John Marks] maintains that meaning is a function of the "total electronic experience"; it incorporates sound and the visual as one gestalt. Hence meaning is not found in words or images or the music alone, "but in the intersection of several of the 'channels' simultaneously." These media carry and store meaning in the "convergences" of this total experience. (p. 78)

Immersion, then, allows us to restore our magical connection to the world. Through the convergence of sensory channels, we experience a fuller reality, where colours and sound and motion can speak, where ideas become animated, where the lines of a drawing can get up and walk, and where dreams come alive:

VideoClip 9: "Honda, Believe in the Dream" (11:40)

Conclusion

Postmodern magic is evident, indeed manifested, in visual digital culture. In this conceptual framework, we began with Ward's (2003) summation of postmodernism as a concern over 1) representation, 2) power, and 3) the dominance of the linear, rationalistic values of the Enlightenment project. We also noted from the chapter on magic, that magic provides an alternative epistemology based on: 1) imagination, 2) differing power relations, and 3) a multi-dimensional approach to understanding. All of this finds expression in Darley's (2000) assertion that the three central elements of digital visual culture are: 1) image, 2) interactivity, and 3) immersion.

If postmodernism is concerned about representation, how the image is used to represent reality, then digital visual culture explodes the limits and boundaries of such representation. Not only can "reality" be re-created, almost flawlessly, but the impossible can be rendered with equal verisimilitude. What does not even exist can be created and

represented "realistically." We can see the impossible, yet know that it is not real, and yet still believe what we are seeing. Science and the Enlightenment are built on the principle that "seeing is believing," but the magic of digital visual culture is that believing now gains equal access to seeing. As Darley (2000) puts it, digital visual culture "is about the production of the 'suspension of disbelief', an aesthetics of realistic illusion" (p. 161). In this space where Enlightenment disbelief is suspended, magic finds a place. Bedazzlement replaces skepticism, wonder replaces reductionism, and delight replaces "the barrenness of matter." More importantly, possibility is redefined. When the impossible is brought to life, when dreams are made real, when the imagination is unleashed, then what was thought to be impossible, or foolish, or magical, finds a place in the realm of the possible. This is the first dimension of postmodern magic, where the hegemonic limitations of possibility are broken and hope and impossibility are let in.

The magic is furthered by the de-centring of the modernist meta-narratives and the re-centring of the individual through interactivity. The interactive nature of digital visual culture changes the power dynamics of the media, shifting power from the owners and producers of the media, who embed their TV shows, advertisements, and movies with their hegemonic meta-narratives, to the spectator who is empowered to become a participant and a producer of culture, with his or her own story replacing a corporate narrative. This new locus of power is shared, leading to a "collective intelligence" and networked, distributed power. While now exercised in play, the skills and powers learned in this "convergence culture" will, as Jenkins (2006) argues, be essential in the new world that is

emerging. Like wizards casting new spells, transforming base materials to gold, or being enchanted by the music of the spheres, the newly empowered makers of digital culture will be learning about the creative as well as the destructive nature of their newfound powers.

The final dimension of postmodern magic is immersion. With immersion, the linear, reductionist monopoly of rationalism and logic is overwhelmed by the multi-dimensionality of a new reality – where colour and beat and sound and movement all are part of our understanding of reality. Immersion offers the possibility of a reconnection with our synaesthetic powers, so that we can hear the message of trees, we can listen to the stones as they talk, we can be given visions by cacti, and where birds can be the source of revelation once again. This is a technologically mediated synaesthesia, and perhaps that is the most we can hope for in a technological age. But once reconnected to the synaesthetic powers, this skill may transfer to broader areas of experience as well.

Conceptually, elements of postmodernism and dimensions of magic can be seen to coalesce in digital visual culture, and this may offer an explanation for why it is so popular and seductive, even addictive, in contemporary society. But where does this all lead? Not all media exhibit all three dimensions of image (representation and imagination), interactivity (alternative power relations), and immersion (the challenge to linear logic and reductionist rationalism and the need for multidimensionality in the appropriation of reality). Movies, for example, demonstrate the ability to make the impossible possible and even create a sense of immersion, but there is no interactivity. The music video might

store meaning in the convergence of sound and beat, colour and movement, creating a synaesthetic experience, but again there is no control or power afforded the viewer. In what media are all three brought together? *In the video game – where stunning graphics, immersive environments, and interactivity can find full expression.*

Perhaps that is why the videogame industry rivals the movie studios and surpasses the music industry for profits and why video games can be so engaging. As we will examine in the next chapter where we look at video games more closely and develop a typology based on the conceptual framework developed so far, by combining the power of image, interactivity and immersion together, the video game might well be the culmination of postmodern magic.

Summary

In this chapter, I have examined how visual digital culture can be seen as a convergence of postmodernism and magic, how the multi-sensory experience of reality goes beyond the modernist dependence on rationality and materialism. For instead of Enlightenment values being privileged, visual digital culture privileges the multi-dimensional and multi-sensory, it privileges the surface over the meta-narrative of depth, and it privileges intensities over linear logic.

Out of this convergence, I have developed a conceptual framework for the relationship between the concerns of postmodernism, the alternative worldview of magic, and possibilities of visual digital culture. The following chart summarizes the connections

between issues raised by postmodernism, the alternative worldview of magic, and the new wizardry manifested in visual digital culture:

Postmodernism	Magic	Visual Digital Culture
Representation	Imagination	Visualization
Power	Transformation	Interaction
Critique of Enlightenment Project Meta-narrative	Synaesthesia	Immersion

Figure 7: Summary of Framework Elements

The wonder evoked by visual digital culture's ability to represent virtually anything echoes the extraordinary powers of magic to imaginatively re-create the world, and postmodernism's critique of modernist notions of representation. The powerful technological ability to interact with the represented world in visual digital culture has been likened to the powerful transformative abilities afforded by the magical arts, and has been placed in the context of postmodernism's concern with the subtle exercise of power in our society. Finally, the multi-sensory, multidimensional, immersive quality of visual digital culture has been compared to the synaesthetic powers of magic, and offered as an alternative to the purely rational and linear mode of Enlightenment science.

This conceptual framework will now be applied to my examination of video games.

Chapter Five

"Magical Things of Wonderment": The Postmodern Magic of Video Games

"As she continued to play, she remembered a previous game ... and how it had made her aware of another level of reality, a level, a layer that consensual reality veiled. That experience had had the effect of making the world seem larger to her. Yet, simultaneously more private."

(Robbins, 1990, p. 331)

Introduction

Video games are intrinsically magical. The Dutch historian Huizinga (1938), one of the first scholars to take seriously the study of play, introduced the notion of "the magic circle." To play a game, according to Huizinga, was to enter the magic circle. Game theorists Salen and Zimmerman applied this concept to videogames (in Nieuwdorp, 2005) and argued that the magic circle is "where the game takes place. To play a game means entering into a magic circle, or perhaps creating one as the game begins" (p. 8).

The concept of the magic circle is also central to Wiccan religion. Its purpose, according to Starhawk (1982), is to contain the energy that the ensuing ritual raises, concentrate that energy, then release it into the universe. As well, she argues that "the circle is also believed to be an area which straddles two dimensions or realities. It becomes a sacred space between the mundane world and the other side – also known as the 'veil between worlds'" (p. 83). This is reminiscent of the multi-dimensionality of quantum physics and similar to what Cheney (1999) calls "ceremonial worlds" (p. 148) where

"performative" words had the function of creating alternative dimensions to reality.

This concentration of energy in a sacred space distinct from the mundane world is also, in some ways, reminiscent of Mihály Csíkszentmihályi's notion of "flow" (1991). In "flow," one enters into a "zone" in which the mundane world almost disappears and a unique and powerful energy is channeled. This connection will be explored more fully later, but the relationship between the "magic circle" of religion, play and "flow" is worth keeping in mind as we look at the magical dimension of video games for it allows us to begin to understand the captivating, engrossing effect some video games have on players.

Huizinga (1938) also noted that certain rules apply when the magic circle is cast. Michael and Chen (2006) summarize the rules as:

> 1. Voluntary, a form of freedom: "play to order is no longer play."
> 2. Pretend: "play is not 'ordinary' or 'real' life."
> 3. Immersive, or taking up the player's full attention.
> 4. "It is 'played out' within certain limits of time and place."
> 5. Based on rules: "it creates order, *is* order."
> 6. Social, creating a social group of the players or tending to cause people involved in a particular kind of play to identify themselves as a group. (p. 19)

Play, then, is a form of freedom in which the players create a sense of order outside the realms of the "ordinary" or the "real." There are limits, but these limits are placed by the players themselves, not by the natural, physical world, nor by the social order, but by the world imagined by the players. When the magic circle is cast, the player can become anything he or she wants – a magician, a knight, a hero or a villain. The game can take place in the past, or the future, the macrocosm or the microcosm. It can be situated in an

idyllic world or a dystopian world of violence and decay. The only limits are the limits of the circle that has been cast.

Juul (2008) notes, however, that the concept of the "magic circle" has received "an inordinate amount of criticism" (p. 56) in recent video game studies. One area of concern is that the metaphor of a circle implies an impermeable distinction between the outside of the circle and the inside. Taylor (2007), for example, argues that games are not closed or separated from everyday life, but that the world that surrounds the game influences the play. Copier (2005) suggests that the difference between play and non-play is negotiated socially, which is echoed by Malaby's (2007) contention that games are social artifacts. Pargman and Jakobsson (2006) go so far as to say that "the magic is gone" and that there are no strong boundaries anymore between games and ordinary life.

Juul argues, nevertheless, that such criticism is based on "a misreading of the basic concept of the magic circle," and a "somewhat rushed application of traditional theoretical concerns" which focuses on "binary distinctions" (p. 56). He points out that Huizinga never argued for a separate world of play and that he acknowledged the malleability and the social aspects of the "magic circle" – indeed, this is part of the mystery of game play for him. Juul argues that "the magic circle is the boundary players negotiate," (p. 62), not some arbitrary space conjured up by the game itself. He writes, instead, that "the magic circle is a description of salient differences between a game and its surrounding environment" (p. 60).

A second area of concern with the concept of the "magic circle" seems to be the

notion of "magic" itself. Arsenault and Perron (2006) note that "this all-inclusive term seems to belong more to the realm of magic than to one of science" (para 1). They write: "Like Daniel Cook states in 'The Chemistry of Game Design,' it is necessary to move 'beyond alchemy' and to 'embrace the scientific process and start [to] build a science of game design'" (para 1). While such a science would be useful, this represents once again, the Enlightenment project's goal of reducing all things magical to science. It is not mere irony that Cook talks about chemistry replacing alchemy. Game theorists who subscribe to Enlightenment values may see this as a process of maturation and "growing up," but as Arsenault and Perron rightly state, "but if, as we grow up and as our experience of gaming changes, games do not spellbind us anymore, it does not mean that there is not something captivating or enchanting about them any longer" and that "there is in fact something magical that happens when a game begins" (para 17). The magic is found, not in its design, but is conjured up in "the game's space of possibility that expands" (para 28) as the game is played, and they offer an elaboration on the magic circle called the "magic spiral" where aspects of gameplay, narrative, and meaning circle around each other, creating a more dynamic and less fixed understanding of a game's magic.

In an interview with an early unnamed pioneer in game programming, Dovey and Kennedy (2007) discussed with him his initial attraction to computer games. He said, "I was just fascinated by how it all worked you know because when I first played games they were these magical things of wonderment" (p. 142). In this chapter, I will explore and analyze the magical dimensions of video games, particularly how they manifest the

convergence of postmodernism, traditional magic, and visual digital culture. There will be three sections that correspond to the three triads discussed in the previous chapter: the triad of ***representation/imagination/visualization***, the triad of ***power/transformation/interaction***, and the triad of ***immersion/synaethesia/post-Enlightenment project***. In doing so, we will come to a fuller understanding of the captivating power, the ludic freedom, and the multi-dimensional resonance afforded those who cast the magic circle and enter into "these magical things of wonderment."

Triad One: Creating Reality

In his 2008 G4C keynote address, Gee suggests that one of the strengths of a video game "is its power to give players a new way to see the world" (Duffy, 2008, p. 2). Indeed, video games can provide a powerful, visual experience. Darley (2000) argues that in the early days of computer gaming, there was a preoccupation with developing the technology so that it could accurately represent reality. As the processing power of microchips and graphics cards increased, so did the "realism" of the games. But quickly computer artists, programmers, and gamers realized that computers could do more than just accurately represent reality – they could create realities from their imaginations. So alternative universes were created, the past re-created, and the future envisioned. The physical laws of the Enlightenment could be transcended. Time and space could be altered. Fantasies could "come to life." Computer games are now touted as "art" – indeed, Denis Dyack of Silicon Knights, a Canadian game development company, argues that "video games are probably the most advanced form of art thus far in human history" (in Brown, 2007, p. 2).

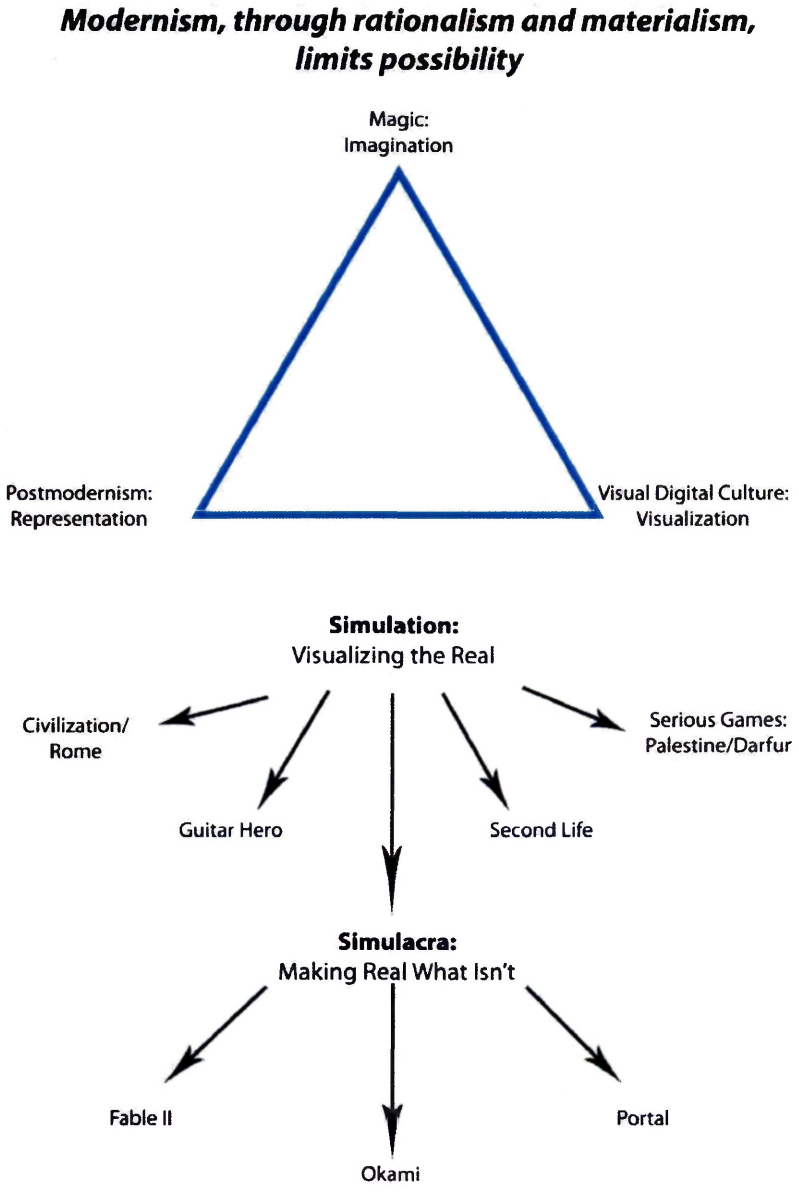


Figure 8: Triad One

There are two stages of representation in video games. The initial impulse in computer representation is to *simulate reality*, where the artist/programmer tries to re-create

as "realistically" as possible the consensual, physical world around us – to visualize the real. However, the power of video games goes beyond such representation to a second stage, the postmodern "simulacra" where one can make real what isn't. Limits are expanded. New possibilities emerge. Imagination becomes real.

Triad Two: Challenging the Meta-narrative

Visual representation, however, is only one element of video game magic. Magic is also about power, just as postmodernism is about the critique of power dynamics. So how do video games empower the player?

Power, at its most basic level, is the ability to define reality. Those who can define reality have power. Those who have reality defined for them accept powerlessness. One of the means by which this power is exercised is through stories. Indeed, in modernism power is maintained through the meta-narrative, the stories that give experiences "meaning," even if that meaning is detrimental to some and highly advantageous to others. Postmodernism attempts to challenge the meta-narratives by deconstructing their meaning and revealing whom the story privileges and whom it oppresses.

Perhaps this is why power is such a central theme in video games. Whether it be warriors with high-powered weaponry blasting their way through *Call to Duty*, or a cybernetically-enhanced human super-soldier slaughtering evil aliens in *Halo*, the exercise of power is central to many video games. Power is also a central aspect of magic. When one thinks of magic, one may think of spells and incantations that have the power to transform what is readily accepted as reality. As Moore (1996) pointed out, however, in our society

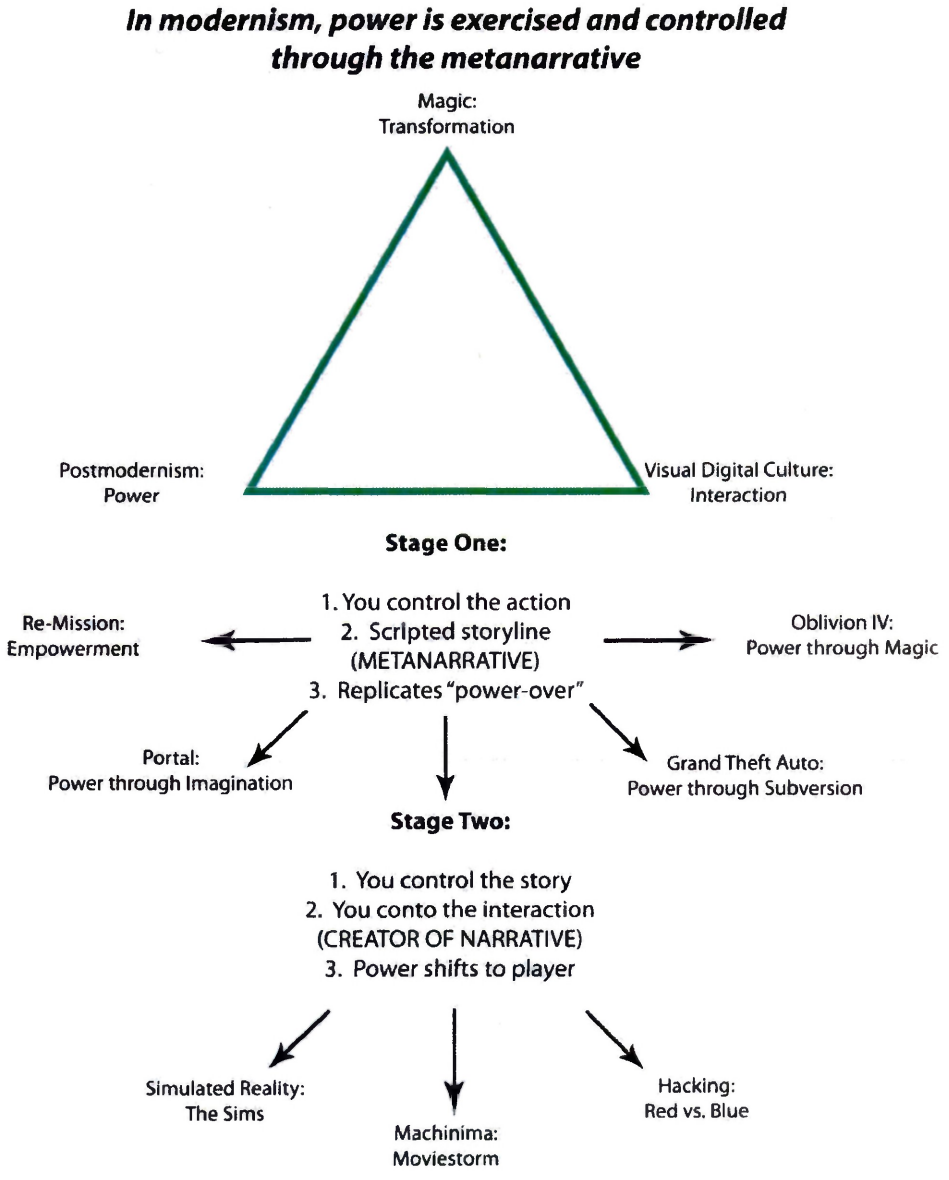


Figure 9: Triad Two

where power is understood as "power over" we often feel uncomfortable with the whole notion of power. We have problems with violence in video games and even worry when our

children devote themselves to fantasy play, wishing that their fascination with wizards and spells could be replaced by an obsession for math or science. But it is in this way that video games and magic play may very well represent a challenge to the dominant meta-narratives.

Not all games challenge the meta-narrative, however. Indeed, some reinforce the status quo. Nevertheless, games that allow the player to play the "villain" instead of the "hero" begin to edge into the territory of the postmodern, where one breaks the rules in order to understand what the underlying rules are. However, as long as the programmer controls the parameters of a player's actions, the player is still under the power of the game – and all those involved in creating the game.

So, the first stage in challenging the meta-narrative is in the interactivity of the game itself. The player chooses where to go and what to do – even if in some games those choices are severely constrained by the limits of an unchanging story. In the second stage, however, the power shifts to the player as s/he takes control of the story itself.

One of Robbins's (1990) characters notes, "when humans were young, they were pushed around in strollers. When they were old, they were pushed around in wheelchairs. In between, they were just pushed around" (p. 124). In the interactivity of video games, however, the player can push back.

Triad Three: Immersed in Flow

Immersion in video games is manifest in a variety of ways. McMahan (2003) notes that immersion can be thought of as being caught up in the gameplay, or enjoying the game, or a sense of being present in the game (p. 68) – although she expresses some concern that

each of these experiences is distinct. She suggests that Murray (1997) provides "the most accepted definition of immersion:

> A stirring narrative in any medium can be experienced as a virtual reality because our brains are programmed to tune into stories with an intensity that can obliterate the world around us.... The experience of being transported to an elaborately simulated place is pleasurable in itself, regardless of the fantasy content. We refer to this experience as immersion. Immersion is a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from a psychologically immersive experience that we do from a plunge in the ocean or swimming pool: the sensation of being surrounded by a completely other reality, as different as water is from air, that takes over all of our attention, our whole perceptual apparatus ... in a participatory medium, immersion implies learning to swim, to do things that the new environment makes possible ... the enjoyment of immersion as a participatory activity. (pp. 98-99)

Immersion, then, is an experience of being enveloped in the game. The player enters into the game as if he or she is entering another world – another reality.

Rehak (2003) notes the deeper psychological roots of such immersion. In his discussion of the role of the avatar in gameplay, he writes: "the video game avatar, presented as a human player's double, merges spectatorship and participation in ways that fundamentally transform both activities" (p. 103). He refers to Lacan's concept of "the mirror stage" in an infant's development, where infants first see a reflection of themselves and understand the reflection to be "an aspect of themselves" (p. 105) – an aspect which the child uses to experiment to gain greater self-awareness and self-understanding. However, as they grow older, they realize that the reflection is outside of themselves, and there is a "split" – they become an observer, separated from themselves (p. 105). Rehak argues that

"the subject that comes into being stands in sharp contrast to the Renaissance category of the unitary self: a stable, autonomous individual, capable of accessing all truth through reason and 'processing' a human essence that remains untouched by historical or cultural circumstances" (pp. 105-106). The result of this split is that the individual becomes alienated from his or her world and end up seeking what Lacan refers to as "the lost object," and Rehak asserts that "the video game meets the criteria of the 'lost object'" (p. 106) through its use of the avatar. The avatar serves as the self and the other. Once again, "the child" – now grown up – is able to use the video game to experiment with his or her relationship with the world, gaining new self-awareness and self-understanding. Rehak refers to this as "playing at being" (p. 123).

Video games, then, allow for a virtual re-unification of the psychological self of the player. They restore, if only for the duration of the game, the "Renaissance unitary self." Perhaps even more importantly, this psychological paradigm can be seen to serve as a "microcosm" of the larger cultural paradigm. For just as the Enlightenment values replaced those of the Renaissance, so the magical values of imagination, microcosm/ macrocosm, and a more wholistic understanding of self in relationship to the cosmos were replaced by the values of the Enlightenment project. But in video games, the magical appears again, the "lost object" is found, and the player is immersed in a reality replete with possibilities. As Rehak puts it: "If we already understand our bodies to be in some sense 'escapable.' Then the magical projections of telephone line, movie screen, and computer-generated battlefield flower before us as spaces into which we can nimbly step – then step

back as suddenly, without suffering any consequences save, perhaps, the memories left by a vivid dream" (p. 124). The result of immersion, then, is a greater understanding of who we are, who we are not, and who we can become. For as Rehak concludes: "The worlds we create – and the avatarial bodies through which we experience them – seem destined to mirror not only our wholeness, but our lack of it" (p. 124).

So immersion begins with exploration - of different worlds and of oneself. When one enters into the video game, an alternative universe is conjured up, and one begins to explore the terrain. As the player's exploration continues, he or she begins to interact with that world, and becomes more and more immersed, and the player begins to care about what happens. The player is motivated to learn more about the world, how it works, how he or she can control it, what limits there are. Gee (2008) notes that "games can create motivation. That's one of the mysterious things. People can't learn anything without motivation. We can't *give* them motivation" (p. 2, emphasis in original). He further suggests that we can "only truly learn something new when an emotion is triggered" (p. 2).

One of the consequences of the Enlightenment project has been to privilege rationality and linear logic. In video games, however, we not only are stimulated by colourful visual images, new forms of interaction and narrativity, but we also are engaged emotionally and with the full gestalt of our being. We do not just *think* when playing a video game. Our body is more fully engaged in the process. Thus we do not merely *learn about*, we are immersed, and we physically and emotionally *experience* something, and

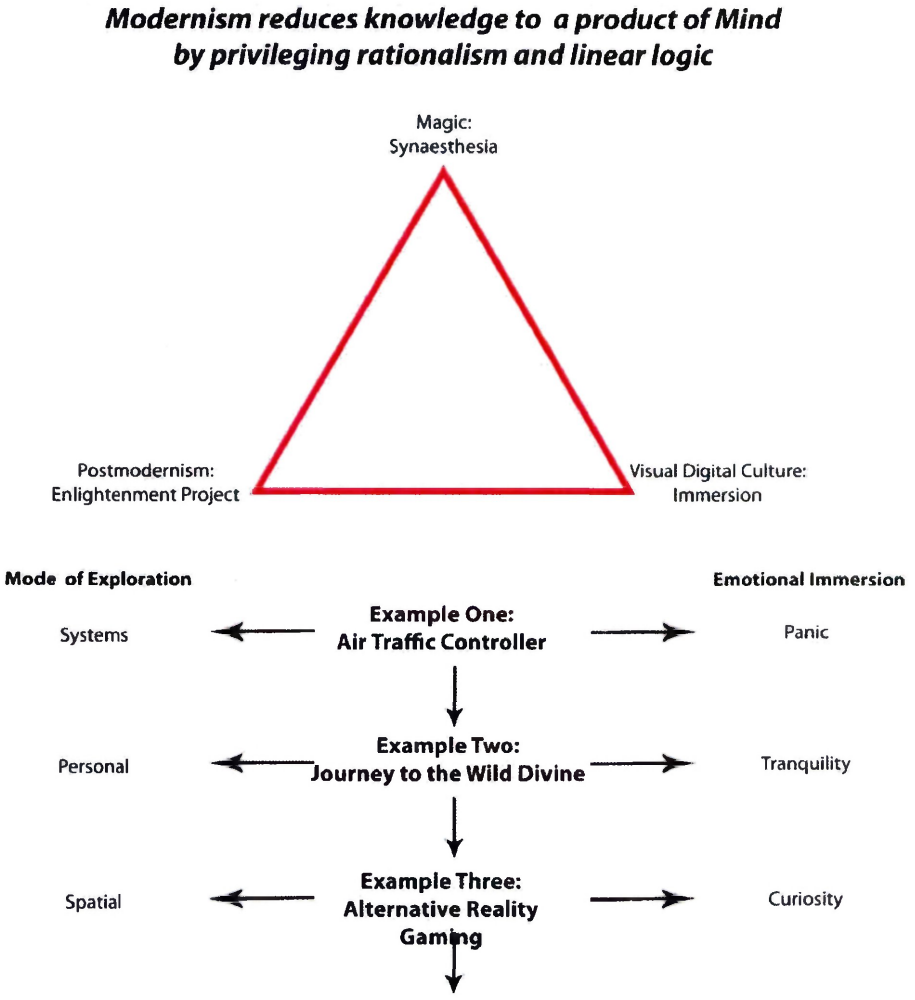


Figure 10: Triad Three

this connects us to the magical phenomenology that Abram has discussed.

Hocking (2007) has suggested that there are three kinds of exploration - systems, personal and spatial - and each one leads to further immersion. For example, in the fantasy game *Oblivion*, he talks about exploration being a goal in itself. Instead of the rewards of

the game being measured in health points, weapons or wealth, exploration is rewarded by renewed motivation. At the 2007 GDC conference he said:

> *Oblivion,* like I said, does really well with alchemical ingredients. But what I didn't talk about ... was this idea that one of the things I did in *Oblivion* was I went to places just to get beautiful panoramas. I went to the highest mountain I could find just to see how far I could see. I went all the way to the sea and the bottom of the world just to see the sunset. Literally, I left my controller there and drank a beer while the sun set. There is no reward for that. It was just wanting to see what the game did and how it worked. So there is this other kind of reward which is just the feeling of openness and seeing how rich the simulation is." (interview in Brown, 2007, p. 3)

Video games, then, can allow for at least three kinds of immersion – spatial, systemic, and personal – in which exploration, motivation and feeling are manifested.

Game Examples

Triad One:

In the first triad, where the issue of representation, image and imagination come together, there are two stages: simulation and simulacra.

Simulation.

Like all art, there is a tension between verisimilitude and imagination. On the one hand, there is a focus on simulation, where game designers seek to create a sense of realism – it is presumed that the more realistic the images presented, the easier it will be for the gamer to enter into a "willing suspension of disbelief." Games like the *Final Fantasy* series show a progression of realism as attention is paid to how hair is replicated, how clothing should flow and move in relation to the model, how skin can be too perfect thus needing random imperfection.

But simulation can be manifested in other ways. The historical games *Civilization* and *Rome* endeavour to re-create the contours and context of historical periods, allowing the player to gain a greater understanding not only of history but also the social, political and psychological dynamics that may have contributed to that history. Games like *Guitar Hero* endeavour to replicate the experience of playing in a rock band. No one would ever learn how to play the guitar from this game, but as the designer notes, the act of performance can be transformative in itself.

Another example would be "Serious Games," a subset of video games that try to represent the actual social and political dynamics of real trouble spots in the world. In *Darfur is Dying*, the player is part of a family that seeks to remain safe while in a civil war zone, and the game represents the difficulties and dangers of trying to meet the family needs of survival and safety, or failing that, the challenges of surviving in a refugee camp. Similarly, *PeaceMaker* is:

> a geopolitical simulation that you can 'play' as either the Israeli Prime Minister or the president of the Palestinian Authority. It combines an RTS-style map of the territory with real news footage and a turn-based mechanic. Every week you choose one action – making a speech, negotiating with internal factions, encouraging or suppressing violent activity – and then watch as an unanticipated event (suicide bombings, riots, etc) throws a spanner in the works, and your poll ratings vacillate among the various domestic and global onlookers. (Poole: 2009, p. 122)

Finally, in virtual environments like *Second Life*, a whole world can simulated. *Second Life"* is an internet based, multi-user, 3D world construction set that emphasizes creativity, collaboration, socializing, and self-government" (White, 2008, p. 4). While

predominantly an environment, it still shares elements of a video game - it is interactive, goal-oriented (even if the goals are more vague and diverse), and it certainly is virtual. Many "residents" would consider their time spent in *Second Life* as play, but others use *Second Life* to earn an income, for education, or a variety of other goals. In *Second Life* one can buy property, set up a business, sell virtual merchandise, get married, go to a bar or the mall, publish a newspaper, start a church – "residents" can do pretty much anything they want. To create something in *Second Life* is magical. As Wagoner Au (2008) describes it: "Onscreen, it's portrayed as a kind of magic: Your avatar stretches out a hand, rays of light trail out of your fingertips, and a wooden sphere, cube, or other basic building block (called a 'prim,' for 'primitive') emerges from the world with a rumble" (p. 29). The creator of *Second Life*, Philip Rosedale explained that the genesis of this alternative world began as a teenager when he visually replicated a single cell experiment of Stephen Wolfram on an Apple II computer. As he watched the single pixel grow with increasing complexity on the screen, he said to himself, "Oh my god, you can simulate ... anything" (in Au, 2008, p. 16). Conceptually, *Second Life* is based on Rosedale's conviction that reality is "just structures of the mind" and that "what we believe in or what we make of things is all that is real." And he asks, "What magical quality makes this happen?" (in Au, p. 21).

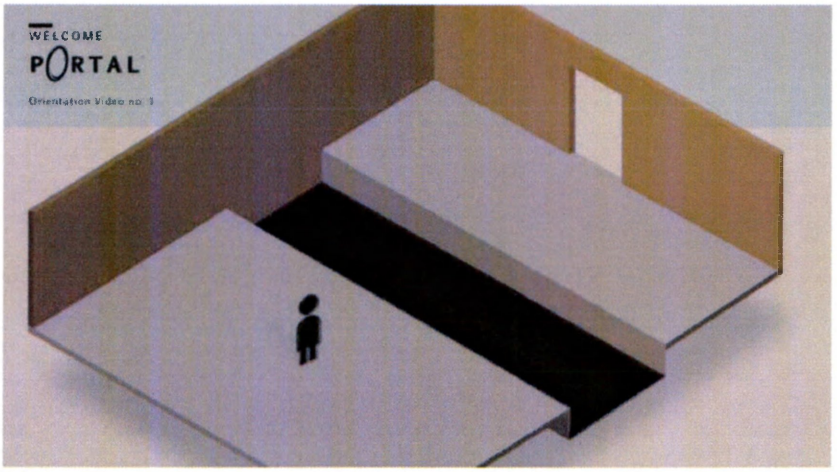
Simulacra: Making Real What Isn't.

Video games are not just restricted to simulating reality. They are much more powerful than that. Video games can create worlds that have never been. Here they represent the imagination. *Fable II* is an enormous online fantasy world where one can

"explore a vast collection of dungeons, catacombs and caves in the world of Albion" (http:// www.gamepressure.com, para 4). Similarly, the massively successful *World of Warcraft* creates a fantastic world of adventure and magic as one goes on quests to gain points and move up levels to new and more challenging quests. These worlds are not simulations of anything "real" – they are the representations of the imagination.

Okami is a beautiful, flowing, almost water-coloured game in which a mythic world is represented and where the protagonist is a wolf. As players progress through the world and meet its various challenges, they learn various "paint strokes" that allow them to move forward or receive clues. Instead of blasting their enemies or slashing opponents, they paint their way through this world. Power is achieved through art.

Finally, *Portal* is a game "designed to change the way players approach, manipulate, and surmise the possibilities in a given environment.... Players must solve physical puzzles and challenges by opening portals to maneuvering objects, and themselves, through space" (Gee: 2008, para 8) The world created is a futuristic lab where test subjects are "motivated" to do complex, mind-bending tasks. In this "instructional video," new players are introduced to the challenge before them:



Video Clip 10: Portal Introduction (2:22)

As Gee (2008) points out, "playing *Portal* immerses the player in a new world with physical laws all its own, which gives the player a reason to take a new perspective" (p. 1). It is magical because it suspends the laws of physics and replaces them with new powers, and it is postmodern because it challenges the Enlightenment rules and can make the player think in a new, non-linear fashion.

Ultimately, this is the postmodern magic of representation in video games. By endeavouring to simulate digitally the world as it is and the world as it could be, the power of imagination is released, possibilities are expanded, and we are given "a new way to see the world."

Triad Two:

In the second triad, where the issues of power, transformation, and interaction come together, there are also two stages: the first where the player controls the action in a

pre-determined story, and a second where the player controls the story itself.

Stage One: You control the action.

The interactivity of video games is the beginning of this challenge to the dominant meta-narrative. No longer passive recipients of the story, as in a movie or novel, the player controls the action, moves the player around, decides where to go next. Without the player, nothing happens. But this is only the first stage of emancipation from the meta-narrative. In this first stage, the "power-over" dynamics are simply replicated. The player blasts the enemy, obliterates the aliens, slashes the dragons – but this is merely empowering the player to reinforce the meta-narrative of "power over" by replacing the focus of who has the power. So in the first stage of interaction, the player controls the action but the player is still controlled by the meta-narrative – he or she simply re-enacts the power dynamics of modernism – the one with the most force wins. In some cases, the justification for this power over is provided in the story in the form of a further meta-narrative, "the myth of redemptive violence" (Wink, 1996, p. 1) in which "power over" is redeemed by the notion that you use power for good – to defeat the Nazi's, to thwart terrorists, to save the village from evil wizards and their demon-like minions – and that the others are using power for evil. There is even a genre of games called "God games" because the player assumes the role of God in creating a universe and determining its future.

Still, some video games replicate this pattern of "power over" but also manage to challenge the meta-narratives of modernism in a variety of creative ways. The use of magic is one of those ways. In *Oblivion IV: Elder Scrolls*, for example, spells and magical

powers are still used to establish control, but the means of such power challenges the modernist notions of scientific determinism, the dominance of rationalism and logic, and the fundamental reality of materialism. In games like *Grand Theft Auto*, the meta-narrative is challenged by having the player take the form of someone who is on the wrong side of the law.

Games like *Re-Mission* empower the "victim." Created for children who have cancer, the player takes the role of a microscopic nanobot who blasts away at cancer cells in the player's body. The player learns more about how the various therapies and treatments affect his or her body, how what the player does can either help or hinder those therapies, and empowers the player to visualize what it means to defeat the cancer. Finally, as we saw in the last section, games like *Portal* turn the Newtonian laws of physics upside down and create a universe where the player defeats his or her opponent not by shooting them, but by creating portals where objects go through one wall and then fall from a ceiling. The players' opponents might be shooting at them, but they never shoot back – they use an unreal physics to accomplish their goals.

All of these games may replicate the "power over" dynamics of the dominant meta-narrative, but they also find ways to subvert or challenge those meta-narratives through imagination and creativity. In the end, however, the player still submits to the story given them. The script (story/conventions/limits) is set by the programmer, just as the meta-narrative is set by the social programmers who tell the stories that give meaning to our stories. An example is an online game called *eLection!* This game is designed to replicate

a presidential campaign in the United States. Set up like a traditional *Snakes and Ladders* game, the player rolls the dice, and moves to a new square with either a problem or a political "break." The player then has to decide what to do. For example, if the player lands on a certain square, he or she might find out that it is in the news that his or her brother has just been arrested for drug use. What does the player do? Players are given a list of options and then the game tells them the repercussions of their choice. But the restricted range of choices limits their possibilities. Similarly, the repercussions are written in stone: if the player just tell the truth, in some cases, the political fallout is harsh – leading, of course, to a message that telling the truth is not a politically savvy thing to do. In this way, the game structure reinforces the values and perceptions of the programmer and limits the options available to him or her. The interactive nature of the video game may seem to put the player in control, but that is not really the case. The programmer retains control. This is one way in which hegemony works. The players are required to choose from the limited choices put before them and ends up supporting a story that is not their own, nor necessarily in their best interests. The control they think they have is an illusion. The story is someone else's.

Stage Two: You control the story.

The second stage of interaction in the story replaces the power dynamics completely by making the player the author of the story. Instead of just controlling the virtual character as it progresses through a pre-determined storyline, the player uses the technology, characters and tools of the game to create a unique story.

The Sims is an excellent example of this. More a platform than a game, in *The Sims* the player constructs a home, a street, a city, and populates that scenario with various characters and stories. Each character can have different physical characteristics, motivations and goals, and emotional temperaments. Multi-player versions allow this to be a communal process. In addition, an in-game camera allows players to record the interactions and create their own video stories.

The Sims is one software game that is used in a genre of of play called *machinima* – a combination of machine and cinema. In *machinima*, the sole purpose of the game is provide a "set" for creating a movie by the player. The characters and scenes in the game are manipulated by the gamer, who plays the role of the director, in telling stories that may have nothing to do with the game. The game provides the technology and resources that a single, at-home prospective movie-maker would not have. Using the pre-existing technology, the storyteller can "hack" the software and use it for purposes unimagined by the software programmer. The *Black and White* series of videos uses *Halo* as its technological engine. The player as director could have a "cast of thousands," beautiful and expansive sets, and all the tools necessary to make a movie. Dedicated software like *Moviestorm* takes this even further, freeing the director from game constraints and providing virtual tools to create a video and tell a new story. While *machinima* is not a game, it takes games and extends the play beyond the intentions of the original game programmer into a new genre.

Games like *Little Big Planet*, however, allow the player to control both the game

and the story. In *Little Big Planet*, the player does not need to be a programmer to program a game, nor does he or she need to be an artist to create virtual worlds. A simple menu selection tool allows them to create blank objects that can then be turned into game objects, backgrounds, interactive elements, or navigational tools. They can use the elements provided, or add their own to the game as well. In this video, you can see how the act of creation is the first stage in the development of the "game" and how interactivity follows as the game is played:

Video Clip 11: Little Big Planet (1:35)

Having created a new world/game, the creator/player has the opportunity to share that world/game with others. Perhaps this is the most important aspect of interaction in video games. It first shifts the focus to the player as he or she controls the action. But more importantly, it provides an opportunity for the player to take at least some control of the story – as Jenkins (2006) says, to be contributors to culture and not just consumers, to

have the power to define reality with new stories instead of merely choosing between the limited and limiting stories given to them. Again, as Jenkins notes, this is a new skill, a new literacy, that may serve the future well. And the literacy that is being developed, the motivation to learn the new skill, comes through the enjoyment of play.

Triad Three:

In the third triad, where the issue of immersion, synaesthesia, and the Enlightenment critique come together, there are three types of immersion – systemic, personal, and spatial – that we can find in video games.

Example # 1: Systemic immersion in Air Traffic Controller.

In an *Edge* article entitled "In control of a panic," Poole (2009) writes about his experience playing the Nintendo DS game *Air Traffic Controller*:

> I am an air traffic controller! The rhythm of a shift is unpredictable. One minute I am idly tapping my foot along to blippy electro-funk, the next I am frantically giving orders to six aircraft at once and breathing a huge sigh of relief as a plane that is landing just misses smashing into the rear of another plane taking off from the same runway.
>
> "Keep your holding pattern, flight 701. Flight 305, you are cleared to taxi. Flight 504, go to gate 16. Oh no, hang on...." There is a class of videogames built specifically to inculcate a feeling of what we might characterise as 'cognitive panic'. Caught in a blizzard of decision procedures, the player has no leisure to plan but must manage a constant emergency. (p. 122)

Poole asks the obvious question: "Why is cognitive panic pleasurable? When we experience it in real life, on one of those days where everything goes wrong at the same time and there seems to be a never-ending hail of demands on our attention, it's not usually something very welcome" (p. 122). Nevertheless, he points to the use of virtual reality

simulations of cognitive panic by the American military to help soldiers deal with post-traumatic stress disorder. Patients are "encouraged to play through reconstructions of a 'virtual Iraq', where things are initially calm, but then violent events and sensory overload are gradually ramped up until it finally begins to replicate the original trauma as closely as possible" (p. 122). This can build up tolerance to the events and a confidence in being able to work through the distress – in other words, the patient can learn to manage the panic. The key to this therapy, however, is the understanding that the "virtual Iraq" is imaginary, which proves to be an essential "safety valve." As Lt. Cmdr Robert McLay puts it, "the great thing about virtual reality is that you can turn it off" (in Poole, p. 122).

The Nintendo DS, on which this game is played, is a handheld gaming device with relatively low graphics resolution. The images are pixilated and very simplistic. This is not a game with stunning graphics or complex interactions. But in this case, immersion in a *system* produces an emotional response of panic. Through this immersion, however, panic is transformed in a manner that defies logic through an emotional alchemy in which trauma is defeated by the safety of a virtual environment.

Example # 2: Personal immersion in Journey to the Wild Divine.

Journey to the Wild Divine is a unique video game that uses biofeedback as a means of progressing through the game. Instead of solving puzzles or shooting opponents, the player is attached to a "magic stone" that reads the player's heart rate variability and skin conductance in order to overcome obstacles or advance to new levels. You "build stairways with your breath, open doors with meditation, juggle balls with your laughter" (http://www.

wilddivine.com, About Wild Divine, para 1) – in other words, in order to control the game, the player needs to control his or her inner self. Deep breathing exercises to slow down the heart rate, or rapid breathing to attain a more excited state are used to explore the various dimensions of the game. The player learns to, first, become aware of his or her bodily state and then to control those states. The promotional materials for the program make an interesting claim: "With just a few minutes of practice each day, Wild Divine's products can transform your computer into a beautiful and engaging experience of relaxation and balance, helping you to increase your energy level, restore balance and improve your ability to connect to the world around you in profound ways." The key here is their claim of "a beautiful and engaging experience of relaxation and balance" (http://wilddivine.com, About the Wild Divine, para 6). This marks a different type of immersion, where players are not only immersed in a game, journeying from level to level, but where they also journey inside themselves. Once again, the game provides an "experience" which creates an emotional response, and through that emotional response of tranquility, they achieve greater self-awareness and control.

Example # 3: Spatial Immersion in Alternative Reality Gaming.

Alternative Reality Gaming (ARG's) blends virtual reality and physical reality into a seamless whole. The game takes place both online and in the "real" world, challenging the player to determine what is real and what is the game. Gosney (2005) defines ARG's in this way:

An alternative reality game is a cross-media game that deliberately blurs the

> line between the in-game and the out-of-game experiences. While games may primarily be centered around online resources, often events that happen inside the game reality will "reach out" into the players' lives in order to bring them together. (p. 2)

An ARG uses email websites, phone calls, letters, newspaper articles or classified ads, chat or text messaging, real world artifacts related to the game, and real world events as the game is played out.

For example, in the credits to Stephen Spielberg's movie *AI*, the name of Jeanine Salla scrolls across the screen in the role of "sentient machine therapist." As Gosney (2005) recounts, "those curious enough to find out more about Ms. Salla quickly found that, not surprisingly, she had a presence on the Web" (p. 5). Further exploration led those who were curious to a resume with a graduation date in the future – and the realization that Spielberg had extended the story beyond the movie screen and into the world itself. A group of movie buffs decided to follow these and other clues to figure out what was going on, and they formed a collective called "The Cloudmakers." By sharing discoveries and following online clues, they discovered a whole back story to the movie. Like a virtual *DaVinci Code*, they worked together to solve the puzzles that were strewn across cyberspace and in the real world. They received text messages when they accessed a website. Codes would be provided that unlocked other web pages, sending them to new destinations, and new clues. The mystery could not be solved by one person, it required Levy's "collective intelligence."

In another example, a theft of an Audi sports car was reported stolen in an online

article. A reward was offered for the successful return of the car. This turned out to be an ARG, however. Actual flyers were distributed with a picture of the suspected thief. Investigations on the web led to a history of that person and further clues that could be found at the Audi exhibit at the New York International Auto Show.

Another ARG, entitled *Perplex City*, offered a prize of $200,000 for the winner of the game. In this video clip, two players discuss the dynamics of the game:

Video Clip 12: Perplex Documentary (2:44)

What makes these games different from the standard video game is that the space in which the game is played changes. The virtual and the physical become interchangeable and the magic circle is entered and exited. Starhawk (1982) talks about the nebulous and fragile nature of the wall of the magic circle, and she notes that "in order to leave a circle

and keep it intact, Wiccans believe a door must be cut in the energy of the circle. Using the *athame*, a doorway is 'cut' in the circle, at which point anything may pass through without harming the circle. This opening must be closed afterwards by 'reconnecting' the lines of the circle" (p. 63). Thus imaginatively, by opening the circle and then reconnecting the lines of the circle, it is possible to play a game in both the virtual and physical worlds and maintain the energy of the game.

Again, interconnectedness of physical and virtual space offers a unique experience of immersion, where the sense of place and space is part of the game, where "the bridges between possibility and reality" are once again traversed, and where the tenuous distinction between the imaginary and the "real" is collectively explored.

Abram (1996) argues that *experience* is the key to epistemology and that *synaesthetic* experience is magical. By being immersed in multi-sensory phenomena, colours and sounds and beat and movement, by entering into a relationship with fantastic worlds and mind-bending ideas, and by connecting those experiences with vital and even raw emotions, the video game can create a phenomenology of magic where what we know to be true is altered and forever expanded. As the Robbins's character says, playing the game "had made her aware of another level of reality, a level, a layer that consensual reality veiled. That experience had had the effect of making the world seem larger to her. Yet, simultaneously more private" (p. 331).

Conclusion

So, how are video games magical and postmodern?

At the beginning of this thesis, in Chapter Two, I looked at Ricoeur's (1967) notion of a "second naïveté." He argues that the Enlightenment project, exemplified by Descartes' formulation "I think therefore I am," led to a process of demythologization which destroyed "the first naïveté" – a belief system that included spirit, soul, and imagination, but incarnated those qualities in a literal way. But while the literalism of the "first naïveté" needed to be challenged, the loss of the spiritual, non-physical dimension of reality has led to some destructive consequences. So he argued that we need to re-create a way of appropriating reality that both challenges literalism and yet maintains a dimension of belief. Video games allow for this re-suspension of disbelief by creating an imaginary world that allows us to perceive reality in different ways.

There are parallels here to postmodernism. Postmodernism challenges modernist notions of representation, it examines the power dynamics used to legitimize epistemologies, particularly epistemologies that privilege rationality, linear logic, and materialism. These have been the three areas of postmodern research that have been highlighted in my research: representation (or image), power (through meta-narratives) and the critique of the hegemonic values of rationalism and scientism (the Enlightenment project). Again, video games provide an environment where we can play around with different values and create worlds with alternative logic, redistributed power relationships, and where the laws of physics and science are violated.

We then "reached back," as Smith (2002) suggested, and looked at a time before The Enlightenment to see if there are any concepts that might be useful in our construction

of a "second naïveté," a time when the reductionism of science had not reduced most of the world to inanimate objects and Easlea's (1980) "barrenness of matter." It was a time when the stars resonated with the "music of the spheres," when the patterns of geomancy led to insight and not just geometry, when amulets provided protection and talismans pointed us to the sacred, where elixirs didn't just satisfy thirst but were the means of symbolic re-connection, where the alchemist endeavoured to turn the base and mundane into spiritual treasure, and when people recognized that words have power. This power could be a power to enslave and captivate, a power to bind together, or it could be the power to loose the bonds and free the entranced. They were words that had a "performative" power, that could transform reality. The examination of the pre-Enlightenment worldview revealed that magic is about the power of the imagination to recast reality, that alternative reality is more concerned about relationship and re-connection, and that it opens up new and multiple dimensions of reality – much like the mysterious multidimensionality of the quantum world. Video games are replete with magical elements, some explicit and some implicit. In video games, talismans are used to create portals into other dimensions, patterns are painstakingly examined and explored, magicians and wizards and alchemists are guides and explicators of strange and unimagined realities, more than one sense is active in the experience, and the player can be empowered. Indeed, in a video game the player can regain his or her "lost Adamic powers" and is no longer "pushed around" but can take control of the world he or she is in and act accordingly.

Having reached back to examine the magical world that preceded the Enlightenment,

we returned to the postmodern phenomenon of "visual digital culture," particularly the characteristics of the digital image, the power of interaction, and the synaesthetic experience of immersion. While different modern media explore different dimensions of visual digital culture, in video games all three converge. In the video game, unreal worlds are made "real," the imagination is visualized. More than that, the player can interact with that world, controlling the action, and even controlling the story. And this all takes place in a world that accesses multiple senses, leading to a powerful experience of convergence. Indeed, video games can provide us with a three-dimensional, interactive, immersive "rhyzomatic metaphor" where postmodernism, magic and visual digital culture combine, converge, and interconnect with each other on multiple planes and dimensions.

Take, for example, the game *Prey*, which begins with the protagonist, a Cherokee, looking at himself in a mirror – a moment of critical self-reflection. He is dissatisfied with who he has become. Is he the person reflected in the mirror? Or is it only an image, a representation? Is the physical reality reflected back the same as the perceived reality, or are they two different people? As he leaves the washroom, he is confronted by his grandfather who is always trying to teach his grandson the "the traditional ways," which he rejects, not being interested in the old ways, the foolishness of the "first naïvetée." His grandfather has had a "vision," however, and he knows that on this night his grandson is going to need him. Such a vision, of course, has no place in a non-magical, scientific world, that rejects the grandfather's reality as much as his grandson does.

Everything changes, however, when the Sphere appears. The Sphere is the ship

of an alien culture that has come to destroy the earth. A parasitic culture, it goes from galaxy to galaxy, planet to planet, destroying the life-giving qualities of a planet until it dies. While at first this might seem to be a foray into science fiction, we soon begin to wonder if the Sphere has a more symbolic meaning, whether it in fact represents Western, European culture (and the Enlightenment project) that colonizes and then rapaciously destroys indigenous cultures, alternative and magical worldviews, and the land? If so, the game is explicitly postmodern in its critique of colonialism, and metaphorically challenges the values of modern science and culture. It falls upon the main character to destroy the Sphere and save the world from these values, but to do so he must access his traditional powers, and some levels can only be completed by his taking on a "Spirit Dimension" where magical portals that defy the laws of physics are available to him, and where special armour and weapons are the only means by which he can defeat the Sphere's power.

This game can be seen to offer a postmodern critique of modernist culture, as it offers an alternative source of power that is magical, not scientific, where the unrelenting and destructive forces of hegemony are challenged by an empowered individual who is re-connected with his traditional ways and spiritual roots – all of which is represented in a visually stunning three-dimensional digital environment. The protagonist is compelled to act, for inaction will lead to the death of his world. However, in a video game it is not just important that *he* act – in the video game *you* are the protagonist, and you must act. You must enter "the magic circle", the "ceremonial world," or nothing happens at all.

For a game to resonate with a player, the player needs to enter into the game. As

Abram (1996) asserts, most of our senses come in pairs and we need to form a loop with the world that is around us. We need to connect and enter into relationship if the magic of life is to be experienced. And when our energies and powers enter into relationship with others, we can experience resonance, or dissonance. Our energies, perceptions, powers can harmonize with what we are connected to, they can complement the network to which we are attached, they can correspond and converge with the energies, perceptions and powers of others – or there can be no match at all, even disharmony and disconnection. Some games will resonate with some and not others, because while we may live most of our lives in tune with a consensual reality, there are also a variety of cultural and contextual realities that make for difference, and there is always that particularly personal dimension in which we live our own unique reality.

In *Skinny Legs and All,* the final veil drops and the main character realizes that the last illusion is "the illusion that you could get somebody else to do it for you. To think for you. To hang on your cross. The priest, the rabbi, the iman, the swami, the philosophical novelist were traffic cops at best. They might direct you through a busy intersection, but they wouldn't follow you home and park the car" (Robbins, 1990, p. 468). Jenkins (2006) suggests that those who are playing in the realm of convergence culture are learning new skills that will be needed for the future. Perhaps that is the most important lesson we can learn from video games: that no one else can do it for you, no one else can think for you, no one else can play the game for you. To play the game is to *participate*, to *engage*, to *act*. To play the game is to defeat the powers of hegemony, the powers of the privileged who try

to think for us, and instead become empowered. In the end, that is the postmodern magic of a video game.

Summary

In play, we enter a magic circle – a social and psychological space that is distinct from the mundane, material world. It is a space where imagination is vital, where magical powers are bestowed upon the player, and where new realities can be experienced. Play is enchanting.

In this chapter I have applied the conceptual framework established in the last chapter to the study of video games. Video games can not only simulate reality, they can create simulacras, realities that do not exist. Modernism, through rationalism, reductionism and materialism, limits possibility, video have expand the realm of what is possible. Power dynamics are challenged, as the player not the producer, controls the action and even the content. Finally, while modernism privileges rationalism and linear logic, reducing knowledge to a mental and intellectual product, video games enhance our appropriation of reality and synaesthetically create immersive experiences, what I have called a "phenomenology of magic."

Not all games manifest all of these triads equally. Some games emphasize the image over interaction, while others emphasize immersion over image. A puzzle game may have very little synaesthetic quality, but may be engrossing through the interaction between the puzzle and the player. Simulation games focus on representation over the synaesthetic,

while a first person shooter may emphasize immersion and interaction. However, video games share these characteristics in different measures, and it is the variety of game genres that attracts different players.

In the next chapter, I will present a virtual space, and in doing so, begin an introductory discussion of the implications of this conceptual framework for education, a discussion that will open up avenues for further research.

Chapter Six

Epilogue

Implications for Practice: Imagining a Pedagogy of Enchantment

Overview

This dissertation began with the central research question: "Can we create, through virtual reality, learning environments that are 'magical,' that are 'enchanting'? To answer that question, I constructed a conceptual framework that looked at postmodernism, pre-Enlightenment magic, and visual digital culture. My assertion has been that virtual reality, particularly as manifested in video games, can be seen as a form of postmodern magic.

An understanding of postmodernism has been essential for this analysis because postmodernism effectively critiques the values and meta-narratives that eliminate magic and games as areas of serious consideration. By challenging the epistemological privilege of rationality, logic and materialism, postmodernism creates a space where magic and video games can be legitimately examined. It also opens up the possibility of new criteria for legitimization – criteria that better reflect values of interconnectedness, relationship, imagination, transformation, as well as a holistic balance in our appropriation of reality – particularly the criterion of resonance. So the measure of this work is not how logical or linear it is, but whether or not elements of the discussion resonate with the reader. It is to be expected that some parts will resonate and others will not. The intensities of the

resonances will determine how "good" and "true" this dissertation is for you.

I then turned to look at magic, particularly how magic represents a way of looking at the world where spirit is real and where an inanimate, material world comes alive – unlike the values of modernity, instead, magic depends on relationship and an interconnectedness between the microcosm and the macrocosm. It values imagination and its power to transform, rather than limiting power to intellectual meta-narratives that control. Magic values the multi-sensory and multidimensional, instead of privileging the mind and logic. This may allow us to re-construct our reality with expanded possibilities.

Visual digital culture can bring magic into the present. By digitally enabling us to create worlds only imagined, we begin to visualize alternative realities. What the imagination envisions, visual digital culture manifests. Magical possibilities and transformations are translated into actual experience. There is a convergence of art, science and concept that can be empowering.

Finally, I then looked at how this convergence actually manifests itself in some video games. Video games can provide an experience of imagination, the power to control the action and even the narrative itself, while immersing the player in a multi-sensory and multidimensional world that engages multiple senses. For many, the resulting experience is enchanting, magical, even addictive. It is an experience of wonder.

So my final question is: Can elements of this analysis be applied to educational environments, so that they can be enchanting places that evoke this same sense of wonder and engagement, and can such an analysis lead to games that are more enriching and

educational? Education can learn much from video games, but video games can do more than simply reinforce cultural stereotypes and hegemonic meta-narratives. Both endeavours can benefit from each other, and the convergence of education and gaming is extremely promising.

In this epilogue, I will invite you to enter into a virtual space to begin this discussion - a discussion that will, hopefully, lead to further development.

Preliminary Application of Conceptual Analysis

What are some of the implications of this conceptual analysis for the practice of teaching? How can we move toward praxis, toward action? In this chapter, I will begin to look at the educational implications of this work, consider a tentative framework for application, and raise questions for further development in subsequent research.

Each of the three triads discussed in the previous chapter revolve around a central concern. The first triad is that of representation, imagination, and visualization. Postmodernism is concerned with the manner in which reality is represented, challenging modernist representations that reinforce hegemonic structures. In magic, the relationship between the image and imagination is explored, with reality being expanded by imaginative representations. In visual digital culture, the focus of concern is the manner in which reality is visualized in modern culture. The triad of representation/ imagination/visualization, then, revolves around the concept of "image":

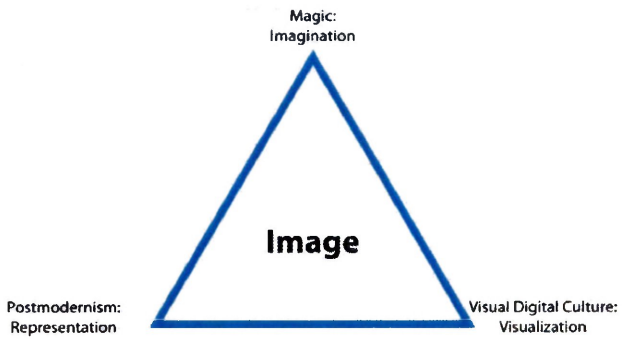


Figure 11: Image Triad

The second triad links meta-narrative with transformation and interaction. Postmodernism is concerned with the power relationships that manifest themselves in society, that try to remain hidden but are brought to the surface by postmodern critique of modernist meta-narratives. Magic is concerned with how to transform the most basic elements of the world, and the talismans, spells, incantations and esoteric knowledge that allow such transformations. Visual digital culture explores the powerful nature of digitally mediated interaction with culture. The triad of meta-narrative/ transformation/interaction, then, all link to "power":

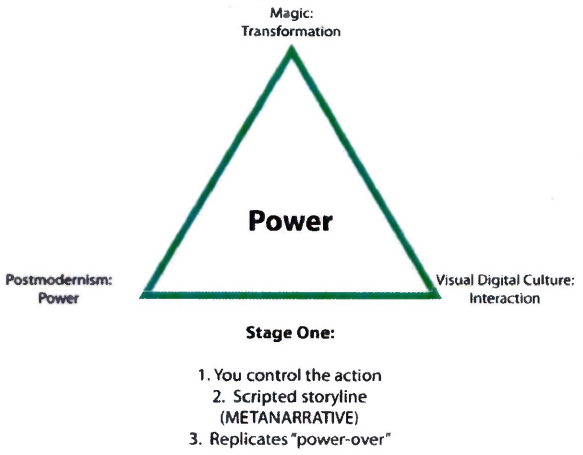


Figure 12: Power Triad

The third triad looks at the relationship between immersion, synaethesia, and the postmodern critique of the Enlightenment project. A main focus of postmodern thought is an examination of the detrimental effects of the exclusive values of rationalism, linear logic, and materialism. Magic, however, incorporates a synaesthetic dimension to its understanding of our relationship with reality, expanding the boundaries of possibility. In visual digital culture, this is manifested in an experience of immersion that goes beyond the mere rational. The triad of Enlightenment project critique/synaethesia/immersion revolves around the concept of "convergence":

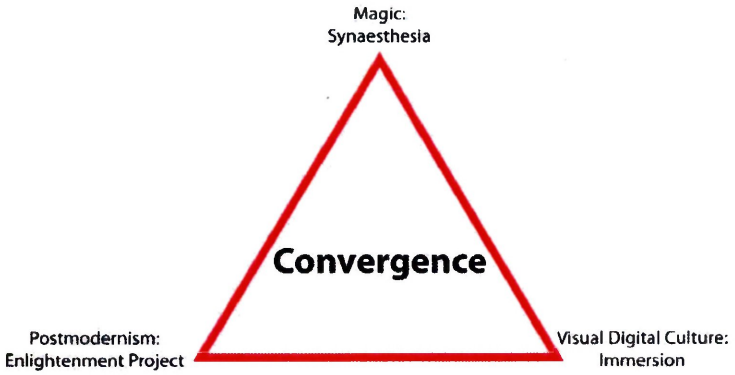
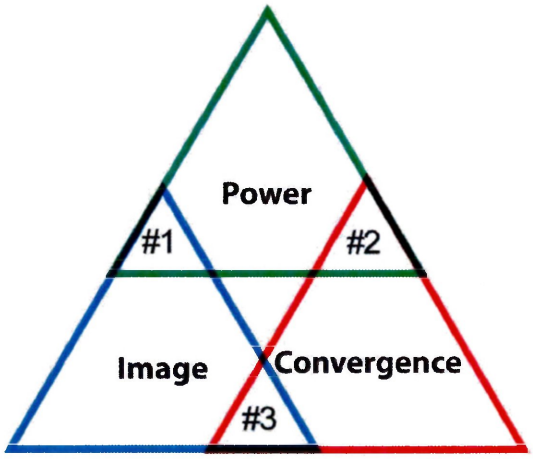


Figure 13: Convergence Triad

The concepts and concerns of all three triads overlap and influence each other. When we look at these connections, three key elements emerge:



#1 - Narrativity
#2 - Interactivity
#3 - Immersion

Figure 14: Combined Triads

Narrativity links the artistic elements of the image with the power to represent and even challenge pre-ordained meta-narratives. Interactivity links the power of the player

to control the action with ability to do so in ever convergent spaces and media. Finally, image links with convergence to create immersive environments.

Much modernist academic research reduces the object of study to a text. This dissertation has argued, however, that a postmodern sensibility is multi-dimensional, multi-sensory, and is manifested in virtual spaces. In this final chapter, then, I will seek to begin the discussion of the practical implications of this analysis in a virtual environment. It will "incarnate" the concepts presented so far, and embody my final suggestion, that virtual reality opens a space for a "pedagogy of enchantment."

Instructions

Click on one of the buttons below. This will take you to a virtual island. When you first arrive, look for the "Dark Wall." You move your curser to point to where you want to look or move. Use the W key to go forward, the S key to go backward, the A key to go to the left, and the D key to go to the right. When you get to the Dark Wall, press the Spacebar and the introductory video will start.

Click on the Button Above
To Launch the Mac Version

Click on the Button Above
To Launch the Windows Version

Scripts for Videos

The intent is for the reader to continue with the dissertation in the virtual world. The following scripts have been provided as a textual alternative. Because these scripts are intended for oral presentation, a more informal idiom will be used.

Introduction

In her book *Adventure in the Classroom*, Henton (1996) suggests that we need educational environments that allow for adventure. She suggests that there are four key qualities that summarize what she means by this. "Adventure," she writes, "is a matter of significance, support, stimulation and satisfaction" (p. 5). For Henton, learning as adventure is necessarily experiential – you learn by being engaged in a task you find significant and important, where you have a community to support you, where there is an anticipation of surprise as well as sensory and emotional delights, and where there is a sense of satisfaction when you successfully complete the task.

Virtual gaming environments can provide students with such a sense of adventure. Instead of being merely engaged in an intellectual, rational exercise, a virtual game environment allows for increasingly difficult tasks, it can build in the support of fellow gamers, it offers a plethora of visual digital stimulation, it can engage the emotional as well as the multi-sensory dimensions of experience, and it provides immense satisfaction when the increasingly difficult tasks are mastered and the game is finally completed.

So far in this dissertation, I have argued that virtual gaming environments are magical – magical, that is, in a postmodern way. The final question I want to begin to

address is how that magic can be used in educational endeavours. How might we develop a "pedagogy of enchantment"?

This is an important question because, in my experience, too many of our students find that traditional educational environments provide little motivation or nominal engagement. For a generation brought up "on the screen" there is not sufficient visual, aural or kinesthetic stimulation to maintain their attention much less their interest.

Middendorf and Kalish (1996) comment on the attention span of students and note studies that show that "adult learners can keep tuned to a lecture for no more than 15 to 20 minutes at a time, and this is at the beginning of the class" (p. 2). They suggest that "one explanation for this is that the 'information transfer' model of the traditional lecture does not match what current cognitive science research tells us of how humans learn" (p. 1).

Prensky (2003) is more strident in his assessment. He asserts:

> A *sine qua non* of successful learning is motivation: a motivated learner can't be stopped. Unfortunately, in this day and age much of the content that needs to be learned by students is not directly motivating to them - the word "boring," or one of its politically correct synonyms such as "dry" and "technical" often crosses their lips.... Is is probably safe to say that today's teachers, trainers, and educators are rarely as effective as they might be in the motivational department, and this often causes real problems in getting our otherwise highly-stimulated students to learn. (p. 1)

Prensky goes on to comment that, on the other hand, "the unique expertise that game designers have honed to a superfine edge is player engagement: the ability to keep people in their seats for hour after hour, day after day, at rapt attention, actively trying to reach new goals, shouting with glee at their successes, determined to overcome their failures,

all the while begging for more" (p. 1). The contrast is stark, and reflected in one student's comment: "Every time I go to school I have to power down" (Prensky, 2003, p. 4).

Even if Prensky overstates the case, Luke (2006) states the problem more diplomatically:

> In the midst of all this, educators have tried to come to terms with the contradictions between industrial model schooling based on static print/ book culture and competitive individualism, and the collaborative learning possibilities and deterritorialized meaning-making and knowledge configurations enabled by new technologies." (p. 269)

The implications of this current state of affairs has led Glasser (1998) to write:

> It is my contention that unless we stop talking in generalities and begin to talk about some specific changes in the structure of our teaching and in the role of the teacher in that new structure, and give these changes a fair trial, we will not make a dent in the growing number of unmotivated students who are essentially forced to attend school. (p. 6)

So how can we make education more enchanting?

This final section invites you on an adventure. You are invited to experience a virtual environment. You are challenged to explore this island and find three keys – three keys that represent the keys to a pedagogy of enchantment. Each key can be found in an alcove and when you collect it, the significance of that key will be explained. Then, when you have collected the three keys, you will be transported to the Castle – and to the conclusion of this dissertation.

Note the aids in the menu on the screen. Use your curser keys and your AWSD keys to navigate around, and when you see a new key, follow the instructions to view the explanatory video.

Clark Aldrich (2007) asserts that, "highly interactive virtual learning is a permanent transformation of the educational landscape" (p. 4). As you explore this landscape, consider how this transformation can lead to learning that is engaging, self-motivating, multi-sensory and multi-dimensional, and most of all, magical.

Key One – Narrativity

In order to understand how narrativity is a key component of a pedagogy of enchantment, let's begin with a story, adapted from a tale first told by Walter Wangerin (2008):

A teacher was teaching a class in a school in the Appalachian mountain range. For years it had been rural school, but the encroachments of the suburbs had led to a new mix between the rural students and new students from the city. The class was split pretty evenly, and both groups pretty well kept to themselves. The teacher told them a story about a coyote who was out in the wild, looking for dinner, and the winds were coming from the east, and he could smell his supper – some tourists. But just as he was ready to head toward the smell, the wind shifted and he caught the scent of some new prey – hikers – in the west. So there was food to the east and food to the west. This coyote got so excited – and was so conflicted – that he ended up tearing himself in half as he tried to go both ways at the same time.

The teacher asked the class: Is this story true?

One of the city kids raised her hand and said, emphatically, "No, of course that's not true." The teacher asked her why, and the girl derisively said that it is impossible for

a coyote to tear himself in half trying to go in two directions. There was no doubt in her voice, and she answered as if that was the end of the discussion.

The teacher asked the rural kids if they thought the story was true, but they were more reluctant to say anything. She persisted, and finally one of the rural kids sputtered, "Yes, it is true." All the city kids laughed at such ignorance. But the teacher asked why the boy thought it was true. The young boy looked at the floor while the other kids laughed, not wanting to bring any more ridicule on himself, but the teacher still persisted. "Why do you think this story is true?" Finally the young boy blurted out: "Because greed kills!"

And everyone was silent.

Sometimes stories can reveal a truth that science can miss. As children of the Enlightenment we often are very comfortable with the scientific version of what's true, and end up missing the truth that goes beyond what science and materialism tells us is possible. Stories can reveal another dimension of truth – and sometimes it is a truth that is more important for us to know.

Deleuze and Guattari (1994) argue that "chaos has three daughters, ... these are the Chaoids – art, science and philosophy" (p. 208) that organize the chaos in different ways. Of the three, art has a privileged place because it bridges the other two. Art takes the ephemeral planes of immanence in philosophy and embodies them – art is the incarnation of philosophy just as the Word is made flesh in religious terms. Similarly, art takes the concrete, the physical reality, and imbues it with meaning and symbolic significance. Science can only dissect and describe matter. Philosophy can only fashion concepts out

of ideas. But art takes the symbols and ideas of philosophy and embodies them in the materials of the scientific world of physical reality.

Stories are a form of art. Not only that, but they may be the most accessible of the arts. Stories constitute a universal language. The Enlightenment has resulted in a division of disciplines, each with its own precise language, but the cost of such precision is a resulting jargon that is only understandable to those in the discipline. Indeed, that is one thing that marks mastery of a discipline. But stories can be understood on some level by just about anyone, and when you look at the discourse and conversations that we engage in, it takes the form of people in relationship exchanging stories.

Stories are also central to videogames. They may be essential to the game or they may merely provide a loose narrative structure for the game play, but video games usually tell a story. Indeed, there is great debate in the video game design industry about what is more important: the story or the game play. Carr (2006) suggests that, "while it is possible to distinguish between gameplay and the narrative ..., in practice the two are interwoven" (p. 44). A game focusing on game play can be more open and promote unstructured exploration. A game focusing on narrative, however, gives some structure to the exploration, it organizes the chaos of the virtual world, and incorporates the elements of suspense, wonder, and catharsis as well as the satisfaction of resolution. Nevertheless, there is something very powerful about a story where the player is a participant, not just an observer, where the game play enhances the player's appreciation of the story and the story motivates and enhances the game play.

This tension between narrative and interaction, however, creates a challenge in creating stories that are open-ended, where game play significantly changes the story. This is the challenge that Crawford (2005) has taken up with his computer program "Storytron." Storytron is a program that tries to create narrative game play that is both open and yet maintains the structure and flow of a story. So in a story like Crawford's *Balance of Power*, the game begins in a narrative context (you are the President of the United States and you face a series of challenges). However, how you decide to respond to each challenge changes the trajectory of the game. The narrative then responds to the changing circumstances and moves toward a resolution. When the game is over, the program reformats the choices made and the resulting consequences into a story. In some ways, Crawford creates a grammar of storytelling that forms the basis of the game play, but the game play in the end creates the story. The educational possibilities for teaching the elements of narrative and the consequences of choices are limitless. For example, in a social studies class, a narrative structure could be set up for some social event, say a party. Students could make choices in the game that leads to different outcomes, and a different story. But more than that, the students could be assigned the task of developing the narrative branches for different choices, and the different consequences. They then would be learning more about the underlying social dynamics, and would be free to posit different dynamics than those laid out in a lesson plan or text. In this way, they enter into a relationship with the narrative. It no longer is *a* story. It is their story.

In the end, this is the power of a virtual world. As Justin Marks (2008) puts it, "I

play [games] because I can inhabit another world. One where I can forge my own story" (para. 25).

Key Two – Virtual Synaesthesia

Glasser's research indicates that we remember 10% of what we read, 20% of what we hear, 30% of what we see, 50% of what we see and hear, 70% of what we discuss with others, 80% of what we experience personally, and 95% of what we teach to others (in Ascough, 2002, p. 22).

Clearly, this research suggests that the more senses and cognitive processes involved in experiencing knowledge increases our retention of that knowledge. Given that traditional pedagogy usually involves the reading of texts and listening to lectures, with retention rates of 10 and 20 percent respectively, it is not surprising that many students find education deadening and unmotivating.

The Enlightenment project emphasized the mastery of texts, but visual and experiential learning leads to greater understanding of the material, and relational ways of learning – discussion and teaching – result in even greater retention and integration of knowledge. As Robinson (2006) notes, our current model of education almost solely privileges the brain – and even at that, one side of the brain – reducing the body, he says, merely to a mechanism for moving the brain from place to place. If we are to effectively educate for the future, he says, we need to engage more than the brain, and we need to educate in a way that fosters greater creativity. But creativity requires a willingness to fail, Robinson notes, a willingness to try something, not succeed, learn from it, and try again.

Renaissance magic also recognized the importance of texts, but magicians of those days also believed in experimentation, they used their imaginations to conjure up new connections and relationships that went beyond the rational, they worked to expand the realm of possibility to include both the material and mystical, the physical and spiritual, integrating knowledge into a more inclusive whole. They used their brains, but they also used their experience and their creativity to do so.

It is not surprising, then, that video games use the metaphor of magic to animate their games. For video games stretch the realm of the possible, they cross boundaries, and focus various sensory abilities on the completion of a variety of tasks. Video games also use text, auditory signals, visual clues, and – in the case of multiplayer games – relational and mentoring skills to collectively achieve a goal. Failure is also a key component in video games. You rarely achieve your goal on the first try – indeed, the video game would be considered a poor game if you were to be able to do so. But this failure also drives the player deeper into the game, challenging the player to look for patterns, piquing the ego, and pushing the player to try again, to try harder, to keep working at it until he or she experiences the deep satisfaction of mastering something that at first seemed beyond his or her capacity and capability. To play almost any of the most popular video game is to enter a multidimensional, multisensory, multimedia world that dazzles the eye, entertains the senses, and engages the player's sense of curiosity. To play a video game is to become entranced.

A pedagogy of enchantment, then, seeks to replicate this sense of wonder and

engagement with the learning task at hand. It tries to create a virtual synaesthesia, where the various senses build on each other, reinforce each other, and create a learning that is experienced, not just read or taught, and where one's emotional response to the learning is a valid part of the process. A pedagogy of enchantment can also accommodate different learning styles, where visual learners, auditory learners, and kinesthetic learners can have an equal chance at success.

The magic of a virtual synaesthesia – a compositing of sensory experience with the learning task and with the imagination – has the potential to create engaging and effective learning environments, and powerful learning experiences.

Key Three – Interactivity

Perhaps the most important element in a pedagogy of enchantment is interactivity, the ability of the learner to interact with the educational environment. Glasser (1998) suggests that choice is a key element in effective learning, and that we all strive to meet basic needs, such as survival, belonging, power, freedom, and fun. When those elements are not a part of the educational environment, students either act up or drop out. As Frank (2004) puts it: "A conventional approach in our schools focuses on controlling the student so she or he will learn (or at the very least, allow others to learn). This method can undermine a young person's need for power. Additionally, a daily dose of learning in isolation by reading, listening, and taking tests can be wholly unsatisfying in light of the human needs for fun and belonging" (p. 11). Glasser reinforces this point when he writes: "What goes on in the outside world never 'makes' us do anything. All of our behavior,

simple to complex, is our best attempt to control ourselves to satisfy our needs" (p. 19). Learning environments need to empower students, rather than control them. Students need to make choices so that they can better understand what Glasser calls "the vital relationship between knowledge and power" (p. 78).

Interactivity in a video game gives power to the player. What happens in the game is determined by the player's choices

Vygotsky (1935) argued that there needs to be supports for such learning, and he introduced the concept of "a zone of proximal development" – later to be developed into the theory of "scaffolding." The teacher cannot just thrust the student into a difficult task and expect her or him to perform adequately the first time. Rather there needs to be incremental increases in the difficulty of the task so that the necessary skills can be added and mastered as the degree of difficulty increases.

This is very similar to Csíkszentmihályi's (1991) concept of "flow." Speaking at the "Interacting With Immersive Worlds" conference at Brock University in 2007, he explained that flow is achieved when there is a perfect balancing of the degree of mastery with the degree of difficulty. He used the example of playing the piano. The learner starts with a simple piece, *Chopsticks* for example. If he or she started with a more difficult piece, it would be too challenging for the new pianist, and he or she would give up. But once the budding pianist has mastered *Chopsticks*, if he or she keeps playing it, or pieces that are similarly easy, he or she may get bored – and give up. So as the learner's mastery increases, the degree of difficulty for the next piece needs to increase, so that there is

sufficient challenged to continue to learn. If the next piece is too difficult, however, the player becomes frustrated and starts to believe the task is too hard. So flow is achieved by balancing the challenge with the skill level achieved. Like scaffolding, as one raises their ability, so the difficulty of the task is elevated. And when one finds that perfect balance, one is totally engrossed in what one is doing, and one has achieved the optimal learning zone – "flow" has been achieved. This idea is integral to video games. The different levels of the game are calibrated to increase the challenge as one achieves greater skills.

But how do you create a learning environment that takes into account different students varying learning styles and rate of mastery? A virtual environment allows players to progress through the game at their own pace. Additionally, multiplayer games allow for a community of learning where the skills can be shared from player to player. Different students can master different skills and larger tasks can be accomplished by a team. This opens up the possibility of "learning communities" and a shift from individual learning to community/relational learning – or what might be called "networked learning."

The power of a pedagogy of enchantment lies in its interactivity. By giving students choice, by acknowledging the relationship between power and knowledge, by scaffolding learning so that flow can be achieved, virtual worlds allow students to be empowered and self-motivated in their engagement with learning. More than that, interactivity can lead to deeper more "vicarious experiences" (Marsh, 2006, p. 197) that can result in greater empathy (p. 202). Instead of acting up or dropping out, they can become mesmerized by learning, fully engaged emotionally as well as intellectually, and just as engaged in

education as they are to a video game.

Conclusion

The purpose of this analysis was to explore the conceptual dimensions of virtual reality, to see if we can create learning environments through virtual reality that are "magical" – magical in a postmodern sense.

I began with an examination of the postmodern condition, how it offers a way of looking at the world that overcomes the restrictions placed by the Enlightenment project. Instead of a reality that is reduced to the rational, the material, and a truth determined by quantitative or even qualitative measures, postmodern reality looks outside the rules, deconstructs meaning, challenges underlying meta-narratives, and expands our definition of truth. So we seek not just what is logical, but also what resonates. The measure of this dissertation is not what has been proven, but what has resonated with you.

Magic is a concept that pre-dates the Enlightenment and as such it has a different set of values and a different epistemology. While the Enlightenment Project has led to a specialization of knowledge, with mastery of a discipline requiring it become smaller and more concise, Renaissance magic valued knowledge that was cross-disciplinary and that looked to the relationships between various areas of knowledge. So it was not unusual for a medical doctor to also be an alchemist and a theologian, or a priest to be an astrologer and a magician. Understanding came through relationships, the delineation of patterns, and the unification of knowledge. While such a unification might seem impossible now

with the explosion of knowledge the modern world has experienced, while it might not be possible for someone to be a "Renaissance Man" or woman today, networks might well serve this function. We might be able to create "renaissance networks." Magic points to a way to overcome the fragmentation of knowledge and see it become whole once again.

Magic also provides a metaphor for the possible. We tend to define magic as that which defies the impossible. But if there is indeed a social construction of reality, when we limit what is possible, reality becomes constrained by those limitations. When something is magical, those limitations are lifted. We are allowed to conceptualize beyond what *is* and create something new, perhaps even something better. To do so requires imagination, and the key to understanding a magical worldview is to accept and validate the work of the imagination.

I then examined "visual digital culture" as an aesthetic set of practices (signs and symbols) that encompass both the values of the postmodern and the magical. Just as the postmodern is concerned about the issue of representation – what image represents the "real" – magic is concerned with how the imagination can reveal unnoticed dimensions of reality and even create new realities. So in visual digital culture, not only can reality be simulated and replicated, but what does not even exist, the work of our imagination, can be visually represented.

Similarly, just as the postmodern is concerned with the power dynamics of knowledge, particularly how reality is controlled by meta-narratives, magic is also concerned

about power – the power of transformation. How can the mundane be transfigured into something valuable? How can base metals be turned into gold? How can the music of the spheres vibrate with wisdom? How can power be used in relationship with creation and the cosmos, instead of being used to dominate and control creation and the cosmos? Visual digital culture also represents a significant shift in power dynamics. Instead of "power over," visual digital culture allows for there to be a "power with" dynamic, and consumers now can become creators of culture.

And just as the postmodern is concerned with the limiting and deadening effect of materialism and the exclusiveness of linear logic and rationality, so the magical is concerned with how we can experience a multi-dimensional world, where emotion and all of our senses contribute to a magical, interconnected world of spectacle. Again, this is manifested in visual digital culture with the jaw-dropping, mesmerizing, and breathtaking special effects that are now commonplace in media, and which create a virtual synaethesia.

I have suggested that all of this can come together in video games. Worlds that defy reality and stretch our imaginations are a matter of course in the video game world. Video games create virtual worlds where the imagination is being represented – not merely material worlds. A range of power dynamics are explored, and through modding, hacking, and machinima, power shifts to the player, and new stories can be created, challenging the meta-narratives embedded by game producers. More than that, video games engage multiple senses, not just the visual and the auditory, but the kinesthetic as well. They can

engage our emotions, to the point where we feel panic or exhilaration. They can motivate us to persevere through failure and climb the Vygotskian scaffolding and discover flow.

And so these three overlapping areas of concern and expression form the basis of the three keys of a pedagogy of enchantment. Narrativity is the first key, for stories link our realities, address the chaos of existence by bridging the scientific with the conceptual, and enable students to become the creators of their own stories. This leads to the second key, interactivity, where the player/learner takes responsibility and is empowered to take control of his or her learning, to approach different tasks from different learning modalities, and creatively explore the terrain of knowledge. And such players do so in a virtual world that engages all of their senses and emotions. Thus the third key is a virtual synaethesia, where we learn through a combination of hearing and reading, seeing and experiencing, and being engaged collaboratively and cooperatively, all of which serves to compound and layer the learning in a multidimensional virtual world.

These are the elements of a pedagogy of enchantment, which seeks nothing less than the magical transformation of education.

McGonigal (2010) goes so far as to say that gamers will save our world. She argues that gamers are already well-versed in saving virtual worlds, and the task at hand is to enable them to transfer those skills to the "real" world. Noting that the average gamer will spend 10,000 hours playing games before the age of 21, the equivalent amount of time a high school graduate will have spent in school, she suggests that this is an arena for significant learning. So she has created some "serious game" events, where gamers play a game that

addresses a real problem. "World Without Oil" is an example, where online gamers were invited to play a game that introduced new problems on a weekly basis that they were challenged to collectively offer solutions. Weekly lesson plans were made available, and classes could participate in the game. In the end, thousands of students around the world participated and reported a new understanding and commitment to solving the problems associated with oil consumption. Students became personally engaged and motivated, they mobilized and developed collective strategies, and they reported a sense of transformation.

Similarly, in his article, "If Gamers Ran the World," Tom Armitage (2008) notes that very soon people who have been gamers all their lives might well be elected to high political office. And he wonders how this might change the game of politics, indeed, how it might change the world. He suggests that gamers have learned to strategize and manage scarcities, and whether those scarcities be health modules or magic spells, they still require the gamer to make strategic decisions within the limitations of a social system. Thus, he argues, gamers will already be well prepared to deal with the scarcity of oil or the monetary limits of a federal budget. Armitage also points out that gamers learn to deal with ever-increasing complexity and data rich worlds. They need to differentiate between efficiency and effectiveness, and discover how to learn through failure. What is most important, he believes is that gamers develop what he calls a "systems literacy" – a gamer must come to understand the systemic rules of the world he or she is in and adapt. As he puts it, "Playing, tweaking, fiddling, these are a really important part of the learning process. This is 'play' at its most simple, and it's something that unless we're careful, we simply

stop doing as adults" (para. 53). He gives the example of a professor in the United States who spent twelve hours a day "running 150 person raids on hellishly difficult bosses" in an online game. What she found was that some of her "raiders" were very successful, and when she asked how they did it, they revealed that they were setting up Excel spreadsheets to determine the patterns of the bosses and experimenting with different ways to win the game. She realized they were manifesting some pretty advanced learning, but when she met one of them in person and said "Do you realize that what you're doing is the essence of science?" he replied, "Dude, I'm not doing science. I'm just cheating the game" (para. 34).

Armitage concludes his argument by saying:

> So what does a future run by gamers look like? Well, if they can handle complexity, and they've stocked up all the magic item chests ready for when scarcity hits, and they've failed enough times at the low-stakes games that they know they can make it at the high-stakes ones, and if our environment is one carefully planned out for effective growth rather than rammed together for efficiency, and if they understand how to handle the ever-more complex forms of communications necessary to deal with the large, distributed teams of people necessary to understand complexity – and if they can create a world that supplies and consumes the data necessary to make smart, informed, decisions – then they might just make it awesome (para. 57).

Ultimately, this is my hope for the possibility of a pedagogy of enchantment, that by playing in virtual worlds our students may learn how to transform the future of our world.

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