

Video Games as Change Agents for Peace
Theoretical Frameworks for Effective Praxis

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Introduction

Can video games be change agents for peace? If the answer to this question is yes, then a second question arises out of the first; what is the theoretical foundation of a game that will create the greatest potential for change/peace? To explore the first question it is necessary that our discussion focus on some recent history, research, and theory in the field of game creation. The second question requires a comparison of the strengths and weaknesses of several recent nonviolent/peacebuilding games with an eye towards the theoretical frameworks behind the games. The goal is to explore the theories that are implicit in video games and to discuss the elements needed for a successful “peace” game.

Relevancy:

Video Game Use among Children, Youth and Adults

Why look at video games in the first place? Data shows that more children are playing video games than ever before and for longer periods of time. In the United States, over 90% of children ages 2 through 17 play video games (D.A. Gentile & Walsh, 2002). In 2004, children were playing video games more than 9 hours per week (D.A. Gentile *et al.*, 2004) which is a significant increase from the 4 hours per week of playing time in the mid-1980s (M. B. Harris & Williams, 1985). It should also be noted that the playing time of both boys (13 hours per week) *and* girls (5.5 hours per week) has increased (D.A. Gentile *et al.*, 2004).

While computer games have historically been a mostly male-dominated genre, research from the 1990s showed that 75% of females, as compared with 90% of males, played video games at home (Funk, 1993) and 88% of 12-14 year old girls surveyed played video games regularly (Colwell, 1995). More recent data shows that 38% to 43% of gamers in the United States are female (ESA, 2006; IDSA, 2001) and currently, “women age 18 or older represent a significantly greater portion of the game-playing population (30%) than boys age 17 or younger (23%) (ESA, p. 5). A recent study (NPD, 2004) showed that boys ages 5 to 12 are spending more time playing video games than with such traditional toys as action figures, building sets, games/puzzles and vehicles. So in the United States at least, the vast majority of children, male and female, are playing video games and doing so for longer periods of time. For boys, video games are the preferred “toy.”

Video games continue to play a major role in the lives of young people as they grow older too. A survey of 1,162 college students at 27 colleges and universities in the US found that 70% reported playing video, computer or online games at least sometime. Sixty-five percent classified themselves as being regular or occasional game players. It should be noted here that almost one third (32%) of the students surveyed admitted that they played non-instructional related games during class (Jones, 2003).

But children and college students are not the only ones playing video games. In fact, thirty-three is the average age of the typical game player. While 31% of those who played video games in 2006 were under the age of 18, 44% of people who played video games were between the ages of 18 and 49 and 25% of gamers were age 50 or older. In other

words, most people who play video games are adults. Almost 70% of American heads of households play computer games and 40 is the average age of the most frequent purchaser of video games. Adult gamers have been playing video games for an average of 12 years. Among those who play most frequently, the average number of years for game playing among adult males is 10 years. Adult females who play frequently have been playing an average of 8 years (ESA, 2006).

While the statistics above may be a bit overwhelming, I believe that they are important in revealing how much video games have become a part of the daily lives of most Americans.

Video Games as a Global Phenomenon

In 2005, the combined video and computer games sales in the US totaled \$7 billion with more than 228 million units sold (ESA, 2006). But Americans are not the only consumers of video games. After North America and Japan, the United Kingdom is the third-highest consumer of gaming software. In the UK, the average gamer age 6 to 35 plays computer games 12 hours per week (Parker, 2006) and most have been playing for a little over 10 years. A study conducted by the BBC found that almost 100% of children ages 6–15 played computer games (BBC, 2005).

A report by PricewaterhouseCoopers entitled *Global Entertainment and Media Outlook: 2006-2010* discusses the compound annual growth rate (CAGR) for the global video game market. The report details the consumer spending among nations and regions in the world for video games (pc, online, console/handset, or wireless) and does not include spending on hardware or accessories related to gaming. According to the report, Asia Pacific will have the largest revenue share of the video game market, rising from \$9.8 billion in 2005 to \$17.4 billion in 2010. EMEA (which is Europe, the Middle East and Africa) will be the second largest market (\$7.6 billion to \$13.9 billion). The US will actually drop from second to third in market size in 2008 and remain there through 2010 with a market share of \$13 billion. Canada with 732 million in 2005, will increase to 1.3 billion in 2010. Latin America will have the smallest market at 531 million in 2005 to 835 million in 2010. The EMEA will show the fastest growth at 13% CAGR, with Canada (12.5%) and Asia Pacific (12.3%) next in compound annual growth rate. Global game revenues are predicted to reach \$45 billion by 2010 (Hartig, 2006).

While having some nations (US and Canada) counted separately versus other nations lumped together in regions (EMEA, Asia Pacific, and Latin America) makes for interesting, and perhaps inaccurate, statistical analysis, the data above is important in showing that video games are a rapidly growing *global* phenomenon. People from different ages and nations all over the world are playing video games and the number is increasing. So the question is, why? What makes video games so appealing to so many? What factors have given rise to this global phenomenon?

To answer these questions, we must first explore some ideas that are implicit within video game theory. To put it simply, a video game is, first and foremost, a *game*.

Therefore, we need to define what we mean by *game*. To do that we must look at the idea of *play* and its relationship to *game* as well as its historical significance.

The Importance of Play

The theory of play is not without controversy, due in large part to the numerous definitions for the English word *play*. The *Random House Webster's Collegiate Dictionary* lists 84(!) meanings and usages for the term (Costello *et al.*, 1992). The complexity of the concept and the diversity of the research over the years have led to a plethora of claims as to what exactly constitutes play. Without spending time specifically describing these diverse assertions, it should be noted that play contains an element of mystery (Burghardt, 2005). Also, this "protean complexity" (Burghardt, p. 114) only emphasizes the importance of play, especially as it relates to human and animal development.

Play is not a human construct. There is ample evidence to suggest that it predates human history (Crawford, 1982; Murray *et al.*, 2006). Social play has been observed in many species of animals, especially mammals (Bekoff, 2001, 2004; Crawford, 1982; Grodal, 2001) and consists of some basic elements:

1) Play is engaged in out of pleasure, not because one has to. It is enjoyable and fun (Bekoff, 2004; Crawford, 1982; Grodal, 2001; Prensky, 2001). Research into play's chemistry has authenticated the presence of fun within play and found that it is regulated by Dopamine (and possibly norepinephrine and serotonin) (Bekoff & Byers, 1998; Burghardt, 2005). Play is so powerful that the animal can get lost in the moment:

(T)here is a deepness to animal play in that the players are so immersed in play that they are the play. Play is thus a soulful activity, perhaps the essence of the individual's being at the moment as they play from deep in their hearts. As Aquinas noted, play is about being, there are no whys in play (Bekoff, 2004, p. 60).

This involvement without abandon is an important element in helping the player to learn (Fabricatore, 2000; Prensky, 2001).

2) Play is educational. Through play, animals understand the rules of behavior within their social group. This ranges from learning how rough to play to resolving conflict. Researchers go so far as to say that play teaches "fairness" because a cheater will not be able to find anyone who will play with them (Bekoff, 2001, 2004). Play helps animals prepare for the unanticipated surprises of life. As a result, they are better able to deal with and more quickly recover from unforeseen traumatic experiences (Spinka *et al.*, 2001).

3) Play is safe. The rules of play allow for mistakes and for the shifting of social roles that allow adults to participate. There is a large measure of grace in play. Trust is implicit. There is an agreement to suspend fighting and mating in order to play (Bekoff, 2001, 2004).

4) Play is necessary for individual and communal social development. Its absence can have catastrophic effects on a member (Bekoff, 2001; Power, 2000) such as a lack of close bonding to the family group which may cause the individual to leave the group (Bekoff, 1977). The nonexistence of play can also signify problems for the group as a whole (Forencich, 2006). According to the surplus resource theory, play occurs when animals are content, satisfied and not in danger:

(P)lay is a barometer of environmental and cultural health. (W)hen play disappears, something is seriously wrong (Forencich, p. 203).

Play in Humans

Humans, as animals, and mammals in particular, are active participants in and products of play. Its importance is reflected in the work of Dutch historian and sociologist Johan Huizinga who saw play as an essential ingredient in the formation of civilization:

The great archetypal activities of human society are all permeated with play from the start...law and order, commerce and profit, craft and art, poetry, wisdom and science. All are rooted in the primeval soil of play (Huizinga, pp. 4-5).

So significant is play to the healthy development of children that it is listed in Article 31 of the Convention on the Rights of the Child adopted by the United Nations General Assembly on November 20, 1989 (Ginsburg, 2007; UN, 1989). The importance of play for children is supported in a recent report by the American Academy of Pediatrics which states that:

(P)lay (or some available free time in the case of older children and adolescents) is essential to the cognitive, physical, social, and emotional well-being of children and youth (Ginsburg, p. 183).

Free play is threatened by the over-scheduling of children's activities, caregivers being too busy to engage in play, and "can be explained by children being passively entertained through television or computer/video games" (Ginsburg, p. 187). There is concern that the lack of active play contributes to health problems such as obesity in children (Sandford & Williamson, 2005).

The AAP report recommends that pediatricians should encourage children to play with "true toys," such as blocks and dolls that more fully engage children's imaginations (rather than passive toys such as video games) (Ginsburg, 2007). This is important to note given the data listed above (NPD, 2004) which shows that among boys video games are replacing these more traditional toys as the toy of choice.

Through play, children engage the world around them in manageable amounts leading to greater and greater proficiency. Fears are faced and challenges are overcome, a process which builds resiliency and confidence. Children try out a variety of adult roles either with their peers or adults. While adult-directed play is important, play that is not directed by adults gives children the freedom to explore what interests them and allows them to

fully develop their own self-concept, creativity and imagination. Children learn to make decisions and solve conflicts at a pace that is comfortable to their personal learning style (Erickson, 1985; Hurwitz, 2002/2003; Pellegrini & Smith, 1998). Play at school is important as well because it helps create a more holistic learning environment where children can develop healthy cognitive, social and emotional modalities (Ginsburg, 2007).

Play then performs a vital role in the healthy development of animals and humans especially within its most common framework, that of games.

Games: The Organization of Play

Games reflect “a special kind of playfulness” (Grodal, p. 140). A game is organized play (Prensky, 2001). The two are different, but interrelated. While play can occur outside of a game, it is often experienced within the structure of a game. The question then is; what is a game?

While there have many definitions of “game” throughout history, two more recent attempts will assist us in developing a set of the most common characteristics intrinsic to the term.

First, a game is:

a set of activities involving one or more players. It has goals, constraints, payoffs, and consequences. A game is rule-guided and artificial in some respects. Finally, a game involves some aspect of competition, even if that competition is with oneself (Dempsey, p.159).

A game can also be defined as:

a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable (Juul, p.36).

These definitions serve as an excellent starting point for a discussion on the characteristics of a game, many of which are supported by numerous other sources:

1) A game has rules. “Organization” and “system” mean some recognized mode of operation. In other words, there is an established set of guidelines for how the game should be played. Rules provide the structure of the game, the allowable actions of the player and a timeframe for those actions (Crawford, 1982; Dempsey *et al.*, 2002; Fabricatore, 2000; Grodal, 2001; Huizinga, 1938; Juul, 2003; Wolf, 2001).

2) A game is artificial. It “represents a subset of reality” (Crawford, p. 7). There is a suspension of belief on the part of the player as he/she becomes immersed in the fantasy world of the game (Fabricatore, 2000; Mitchell & Savill-Smith, 2004). This element of

fantasy makes a game emotionally real to the player while at the same time providing a safe place to experience danger (Crawford, 1982). The consequences within the game do not need to affect real-life (Juul, 2003).

3) Competition is part of a game. Implicit in competition is the notion that there needs to be someone or something to compete against; namely, player(s) and/or competitor(s). Without participants, there can be no game (Asgari & Kaufman, 2004). The competition can involve a player's personal challenge, a race against time, or a struggle with other players/forces (Dempsey et al., 2002). While competition is an aspect of a game, a competition and a game are not the same thing. A game involves direct interaction between the competitors, a competition does not (Crawford, 1982).

4) A game has goals. The player is trying to accomplish something. There is an emotional attachment on the part of the player to the outcome of the game. The player is invested in and trying to shape the ending (i.e. winning) (Dempsey et al., 2002; Juul, 2003; Wolf, 2001). A game involves some element of repetition, meaning that it can be played over and over again until the goal is accomplished (Grodal, 2001).

5) Competition and goals imply conflict (Juul, 2003). Conflict can arise out of competition. If a player's goals are blocked then there is conflict (Crawford, 1982). Conflict is a normal part of life (Fisher *et al.*, 2000; Lederach, 2003) and games reflect this modality. Conflict should be seen as an inherent and necessary part of all games (Crawford, 1982). Conflict resolution is an important skill taught by games (Bekoff, 2001, 2004; Ginsburg, 2007).

It should be noted here that conflict and violence are not the same thing (Fisher *et al.*, 2000). While conflict is fundamental to games, violence does not have to be (Crawford, 1982; Mitchell & Savill-Smith, 2004; Tye, 2004). Violence is widespread in (video) games simply because it is "the most obvious and natural expression for conflict" (Crawford p. 14).

Theory and Potential of Video Games

Video games are coming into their own, not simply as entertainment or games, but as a cultural phenomenon, such as film (Stokes, 2005). As a result, an entire thought around the theory of video games is being developed and discussed (Wolf & Perron, 2003).

Video game theory is based on the premise that the ideas of *game* and *play* are implicit within video games. A video game is, first and foremost, a *game*. As we discussed earlier, a game is organized play (Prensky, 2001). Therefore, the characteristics of play and game and their contribution to human development apply to video games as well (Ruggill *et al.*, 2005). In addition, the specific distinctions of video games coupled with their increasing global reach make video games a media of hitherto unknown potential. Further explorations of these characteristics and distinctions are necessary to flesh out this potential.

Video Games: A Brief History and Working Definition

As with all inventions, video games have a history and a variety of definitions that have been used as descriptors related to different stages in their development. Here at the beginning of our discussion it is important that we spend some time looking at how video games came about with an eye towards defining associated terminology.

The Electronic Digital Computer

John Atanasoff of Bell Laboratories is generally recognized by historians as the inventor of the first electronic digital computer (circa 1940). However, the importance of the invention was not recognized until the need for faster processing speeds for weapons systems and code-breaking during World War II led the US military to begin moving away from analog computers.

The first of these (digital computers) was created by US and British military forces. The Electronic Numerical Integrator and Calculator (ENIAC) was constructed at the Moore School of Engineering in Philadelphia between 1943 and 1946 by the US Army Ordnance Department. Its purpose was to automate the tedious calculation of ballistics tables, on which anti-aircraft weapons and artillery then depended for accuracy. During the war these calculations were performed by a mostly female corps of young mathematicians, known as “computers,” using hand calculators. When the ENIAC project began, some of these women became its first programmers — hence the sobriquet “computer” for the new machine (Edwards, p.3).

Edwards (1994) goes on to say that the single most important computer-related project of the decade immediately after the war (1946-1956) was an MIT flight simulator called *Whirlwind*. This was eventually taken over by the Air Force and became the SAGE air defense system. Edwards states that “the value of the SAGE project— like its 1980s counterpart the *Star Wars* strategic defense system — was almost entirely imaginary and ideological. “Its *military* potential was limited” (Edwards, p. 11). However, not only did SAGE help alleviate some of the nuclear fears of the era, but *Whirlwind* and SAGE helped usher in a wide range of computer-related technological advances such as magnetic core storage, video displays, graphic display techniques, multiprocessing, and the first algebraic computer language (Edwards, 1994). All of these advances heralded the advent of a new form of entertainment that was waiting just around the corner - the video game.

The Advent of the Video Game

Various histories list the first actual video game as *Spacewar!* which was designed in 1962 by students and faculty at the Massachusetts Institute of Technology (MIT) (Rehak, 2003). This was followed in 1970 by the first commercial video game *Computer Space*. The first home game system was *The Magnavox Odyssey* (1972) and the first “hit” game was *PONG*, released in the same year (Wolf & Perron, 2003). Ralph Baer is credited with coming up with the idea of a console where games could be played on a home television set. He actually holds a US Patent under the term *Television Gaming and Training Apparatus* dated April 17, 1973 (Baer, 2001). In 1984, the video game industry suffered a

huge crash. It quickly recovered, thanks in large part to the advent of the Nintendo Entertainment System (NES) game console in 1985 and growing interest in interactive media such as CD-ROM technology (Wolf & Perron, 2003). The rest, as they say, is history. Advances in video, computer, and digital technology have continued to fuel the incredible growth of the industry.

Terminology: Toward a Working Definition of Video Games

In writings around this genre, the terms most often used are “*television games*,” “*electronic games*,” “*computer games*,” and “*video games*.” “*Electronic games*” tends to be a very broad term and so is not used as much as “*computer games*” or “*video games*” which contain more specificity with regards to the discussion (Baer, 2001). “*Television games*” is not used much now. While there is a distinction between the two, “*computer games*” and “*video games*” are often used interchangeably “due to the blurring of the boundaries between computing and video technology” (Mitchell & Savill-Smith, p. 3). They can be defined as “digital applications that can be controlled by individuals or groups of players using a PC or a console such as a Playstation or Xbox machine” (Sandford & Williamson, p. 1). As a general rule, the most commonly used term is “*video games*” and that will be the term used to describe the genre in our discussion.

While video games can be defined in a variety of ways, one distinction is that because of the “plasticity” of the computer, video games present an interactive environment that responds to the player’s desires and actions (Crawford, 1982; Fabricatore, 2000). This interaction brings an element of *active challenge* to the player (Crawford, 1982). A second distinction is that the game play takes place in a virtual environment meaning that the player is provided with everything they need to play the game. And third, the player must always struggle against opposition of some sort to achieve an explicit objective (Fabricatore, 2000). “Most video games are one-player games in which the player faces computer-controlled opponents and situations” (Wolf (2001), p. 15).¹

The distinctions listed above as well as our earlier discussion of *game* and *play* set the stage for a more in-depth exploration of video games and their potential to educate and socially impact those who play them.

Games as Teacher

As we have noted above, the primary role of play is to teach. Games “make use of the principle of play as an instructional strategy” (Van Eck, 2006) p. 18). At their core, games are educational. This is without question.

Games are thus the most ancient and time-honored vehicle for education. They are the original educational technology, the natural one, having received the seal of approval of natural selection (Crawford, p. 16).

Play is central to all games. It makes sense then that games exemplify the most significant of human interactions and perform a fundamental role in how humans develop

¹ A more detailed discussion on the definition of video games and related terms can be found within the opening chapter of The Medium of the Video Game, edited by Mark J. P. Wolf.

cognitively and communally (McAllister & Ruggill, 2005; Murray et al., 2006). Play and games educate. The same can be said for video games. How do video games contribute to this “evolution?”

Digital Game-Based Learning

The proponents of “digital game-based learning” (DGBL) argue that the video game is a new educational tool that holds great promise. What are the elements that make video games good teachers? This question has several answers.

Motivation to Play Video Games

First, video games are good teachers because quite simply people enjoy playing them. As the data above suggests, video games are being played by a lot of people and the number is increasing. So, why do people play video games?

1) Video games are fun. As noted above, play is engaged in out of pleasure. People play video games for pleasure as well. Good games are fun and motivate via fun (Asgari & Kaufman, 2004; Mitchell & Savill-Smith, 2004). Research (Lazzaro, 2004) into why people play games confirms that “fun” is an important element and that there are two types; *hard fun* and *easy fun*, each with specific aspects related to video games and learning.

Hard fun is experienced by players who enjoy facing challenges and obstacles in pursuit of a goal. This player plays to see how good she is and is stretched to develop alternative strategies to accomplish game goals. A good game balances challenge with player skill level. The emotions that are triggered are a combination of frustration when the player’s goals are thwarted and a sense of accomplishment when the obstacles are overcome (Lazzaro, 2004). Frustration is not absent, but it is manageable. The process of moving through the frustration can be in itself another mark of success.

One important element of hard fun is *feedback*. Feedback refers to the ability of the game to continually keep the player informed of his progress and success (Lazzaro, 2004). This feedback mechanism, where the player learns from trial and error, is a primary aspect of video games (Frasca, 2000; Mitchell & Savill-Smith, 2004; Prensky, 2001). It has been surmised that this feedback loop of games contributes to learning through a process that Swiss philosopher Jean Piaget (August 9, 1896 – September 16, 1980) described as “cognitive disequilibrium and resolution.” According to Piaget, learning thrives in the tension between the *assimilation* of new information into existing mental places and the *accommodation* of that which does not fit into present frames (Douglas A. Gentile & Gentile, 2005; Van Eck, 2006). In a game, the player is constantly interacting with the environment, formulating plans, trying them out, discarding, and then revising them if they fail (Sandford & Williamson, 2005; Squire & Jenkins, 2003).

This process happens rapidly and often while the game is played, with immediate feedback. Games that are too easily solved will not be engaging, so good games constantly require input from the learner and provide feedback. Games thrive as teaching tools when they create a continuous cycle of cognitive disequilibrium

and resolution (via assimilation or accommodation) while also allowing the player to be successful (Van Eck, p. 20).

Easy fun on the other hand is experienced by players who “focus on the sheer enjoyment of experiencing the game activities” (Lazarro, p.4). They are interested in participating in the world of the game rather than simply winning or accomplishing a goal. The player experiences a sense of wonder and curiosity as she explores alternative environments and characters.

One central element of easy fun is *immersion*. Games with this element encourage players to “linger,” to get lost in not just the environment of the game, but the emotional experience of playing it.

Rich stimuli and ambiguity as well as detail cause the player to pause with wonder and curiosity. Repetition and rhythm can be hypnotic (Lazarro, p.4).

Immersion, derived from the idea of being under water, refers to how engaged the player becomes in a game and the pleasure they derive from the experience (McMahan, 2003; Murray, 1997). The theory is that the more a game is able to draw a player in, the more successful the game will be. Immersion occurs when the player’s expectations matches what the game offers, the player’s actions have an important effect on the game, and the game has a coherent structure. It makes sense (McMahan, 2003).

Some authors have stated that to step into the world of fantasy presented by a game and to subscribe alternate meanings to objects and actions as they relate to this world involves a suspension of disbelief on the part of the player (Crawford, 1982; Fabricatore, 2000). “(S)uspension of disbelief is what makes the context of the game the only relevant reality” (Fabricatore, p. 4). Murray (1997) goes a step further by suggesting that rather than a suspension of disbelief, there is the active creation of belief on the part of the player.

Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience (Murray, p. 110).

This arises out of the “reader response” school within literary theory which believes that reading is not passive because the imagination of the reader fills in the missing pieces within the narrative based on self-knowledge and belief. This occurs with a book, a movie, or our daily observations on the street (Murray, 1997). Our imagination helps us fill in the gaps of reality. “We take fragmentary scenes and mentally supply the missing actions” (Murray p. 110).

At times, an animal’s play reaches a level where it loses track of time and space, as noted by Bekoff earlier (Bekoff, 2004). This has been observed in the playing of video games as well. Deep play refers to near total immersion by a player within a game to the point of obsession. A “deep player” takes the time to gather as much knowledge as possible about a game’s characters and actions where this knowledge informs their play (McMahan,

2003). As a result, her play is more thoughtful and has more depth; she is not simply rushing through the levels of a game as quickly as possible. In video games, deep play “is a measure of the player’s level of engagement” (McMahan, p. 69). Immersion then can be a kind of computer-generated hypnosis.

It is important to note that the items within the virtual environment should not be too real, alluring, or fearful to make the player step out of the “immersive trance” that makes the experience so powerful (Murray, 1997). To understand this, let us revisit the metaphor of immersion as it relates to water. Immersion in the world of water does not disregard the world of air; the two worlds exist side by side simultaneously with a permeable boundary that can be entered and exited at will. Immersion is a temporary experience of pleasure into the world of water. Immersion is not the same as drowning which disregards the world of air, or reality. The “immersive trance” occurs then when the player moves from one world to the next while at the same time acknowledging both worlds simultaneously.

People play games because they are fun. The feedback loop of hard fun and the element of immersion within easy fun are two ways that the fun aspect of video games helps a player learn.

2) People play video games to achieve “altered states” (Lazarro, p. 4). These types of players play to experience changes internally and with their feelings. Playing the game acts as sort of therapy session. The player experiences excitement as well as relief from the stress of a hard day at school or work (Lazzaro, 2004). The therapeutic potential of games is demonstrated by the fact that there are a number of games being developed for this purpose (S. D. Harris, 2006).

Video games cause a diversity of strong emotions to occur within the player (Brettingham, 2006; Holland *et al.*, 2003; Squire, 2003). Emotion, according to the latest brain research, is a critical component of learning because it creates greater motivation on the part of the learner to learn and creates spaces for positive changes to take place within the brain (Zull, 2004). The emotions the player experiences while playing a game contribute to deeper learning on the part of the player. A description of the theoretical game *Biohazard* from the Games to Teach Project puts it this way: “(R)ather than a lecture, the player is compelled by a visceral or an *emotional* logic” (Holland et al., p.39).

3) People play video games to experience social connection (Crawford, 1982; Lazzaro, 2004; Sandford & Williamson, 2005; Shaffer *et al.*, 2004). Games that are played in groups can create more emotion and excitement (Lazzaro, 2004). Data shows that 51% of people who play video games do so at least one hour per week with someone else or with other people physically with them (ESA, 2006). Spending time with friends is one reason that college students give for why they play video games. Twenty percent (1 out of 5) of the students surveyed said that they felt that gaming helped them strengthen their current friendships and form new relationships (Jones, 2003). People who enjoy this aspect of playing video games enjoy playing as a team and showing off their individual prowess in front of friends.

Online multi-player games are the video games that most often create the opportunity for social interaction (Lazzaro, 2004). In July 2006, there were 12.5 million subscribers worldwide for massive multi-player online games (MMOGs) (Woodcock, 2006) with committed MMOG gamers averaging around 20 hours per week of game play (A. Fleming Seay, 2004; Yee, 2002). Thirty-nine percent of MMOG players stated that the social experience was the main reason why they played (A. Fleming Seay, 2004). MMOGs help to create “bridging social capital,” informal relationships between people of diverse backgrounds. This is juxtaposed against “bonding social capital” which involves relationships with more emotional support such as family and close friends. While bonding social capital may occur in online games, MMOGs act primarily as virtual “third places,” social communities that function much like bars and coffeehouses where people hang out (Steinkuehler & Williams, 2006).

Massively multiplayer games are not only games, but also social systems — living, breathing communities with their own ecologies, life-cycles, and cultures (Holland et al., p. 33)

The communication, collaboration, and the sharing of knowledge that take place within and outside of an MMOG are important foundations for social development, learning and future vocational preparation (Ellis *et al.*, 2006; Gee, 2003).

There are many reasons behind why people play video games. These motivations contribute to learning in a variety of ways and describe why the pleasure of game play makes video games good teachers.

Safety

Secondly, video games are good teachers because they are safe. As noted above the element of safety is an important part of play and games (Bekoff, 2001; Crawford, 1982). The animal is free to explore within the realm of play without physical danger or the thought of being punished for mistakes (Bekoff, 2001, 2004). Video games give the player the space to try out a variety of strategies and not be physically harmed by the choices made.

A player can blast the monsters all day long and risk only her quarter. She can amass huge financial empires and lose them in an hour without risking her piggy bank. She can lead great armies into desperate battles on which hang the fate of nations, all without shedding a drop of blood. In a world of relentless cause and effect, of tragic linkages and inevitable consequences, the disassociation of actions from consequences is a compelling feature of games (Crawford, p14).

This element of safety within video games helps the player learn at his own pace, experience virtual danger, and take risks that he otherwise would be not be able to do in the “real” world (Becta, 2001; Mitchell & Savill-Smith, 2004). This creates the cognitive disequilibrium described above and helps the player learn. It also gives the player license to try out a variety of other roles or identities that they could not otherwise (Crawford, 1982; Shaffer et al., 2004). Role-play can increase “the comprehension of what it is that a specific role actually entails” and “the ability to judge the effectiveness of action taken

and provide an indication of its likely outcomes” (Becta, p. 2). This is especially true in simulations (Ellis *et al.*, 2006; Gee, 2005).

You can act in the simulation and test out what consequences follow, before you act in the real world. You can role-play another person in the model and try to see what motivates their actions or might follow from them before you respond in the real world (Gee, p. 38).

Role-play then can help motivate people to engage more fully in learning and its application to real life (Gee, 2003). The safe environment of video games allows for this “trying on” of identities and the learning that takes place as a result (Sandford & Williamson, 2005).

Unique Characteristics

Finally, video games are good teachers because of their unique characteristics. The distinctions noted earlier such as a challenging interactive environment that responds to the player, a complete virtual environment, and goal-oriented focus are all elements that can contribute to learning (Crawford, 1982; Fabricatore, 2000).

Games are not simply problems or puzzles; they are microworlds, and in such environments students develop a much firmer sense of how specific social processes and practices are interwoven, and how different bodies of knowledge relate to each other (Squire and Jenkins, p. 15).

The Role of the Teacher

Supporters of digital game-based learning are quick to point out that video games are not a cure-all (Sandford & Williamson, 2005; Shaffer *et al.*, 2004). To be truly effective they must be combined with a curriculum and a teacher and the teacher’s role must be considered in the development of educational video games. The role of the teacher/trainer is significant (Becta, 2001; Sandford & Williamson, 2005). The critical element is making sure that the learning activities outside of the game support those within the game and vice versa (Squire & Jenkins, 2003).

Thus, the roles we ask them to take on should be extensions of the roles they play in the game. These can be main characters, ancillary characters, or characters that could hypothetically be part of the game. We should not be so naïve as to think that students will find these activities to be as engaging as the games, but given our need to meet curricular goals and our desire to tightly integrate the games with the learning process, this seems a good way to meet in the middle (Van Eck, p. 26).

While more research is needed to determine how effective video games are as teachers and what exactly players are learning, video games are a unique instructive modality. They are fun. They provide instant feedback and immerse the player in a relatively safe and stimulating environment. They create emotion within the player and present a variety of challenges to be overcome. They provide opportunity for social interaction and the

trying on of a variety of social roles. All of these characteristics contribute to learning on the part of the player and underscore the potential of video games to be good teachers.

Serious Games

Video games can function as important educational tools. But can they go a step further and promote social awareness and change? This question has given rise to the Games for Change movement within the Serious Games Initiative.

The Serious Games Initiative was founded in 2002 at the Woodrow Wilson Center for International Scholars in Washington DC. The Serious Games Initiative focuses on the use of video games to explore challenges within the public sector. It is interested in helping to “forge productive links between the electronic game industry and projects involving the use of games in education, training, health, and public policy” (“Serious games initiative”, 2006) and is a merging of two paradigms; the entertainment paradigm from the commercial games industry and the education paradigm that focuses on training and learning (Ellis *et al.*, 2006). According to David Rejewski, Director of the Serious Games Initiative, “games are one tool that may help immensely in building long-term thinking skills among not only government officials but the general public at-large” (“Serious games initiative”, 2006).

The initiative is not only concerned with creating better tools for education and training but also with using games to help create a better world. In 2004, the Initiative launched Games for Change (G4C) to focus specifically on the use of games for social change. Games for Change is “the primary community of practice for those interested in making digital games about the most pressing issues of our day, from poverty to race and the environment” (“Games for change”, 2006). The goal is to raise awareness which hopefully will lead to behavioral change.

The growing impact and importance of these initiatives can be seen by their presence at industry and game development conferences (there will be a 2-day Serious Games Summit at the 2007 Game Development Conference in San Francisco) and by the popularity of some recent “serious” games, specifically those with a peace orientation.

Games for Peace

The Serious Games Initiative, and its branches Games for Health and Games for Change, have a broader focus than using games for peace. As mentioned above, serious games (also know as “advergams”) are mainly concerned with outreach, education and/or training regardless what the theme is (Stokes, 2005). In fact, the first “serious” game was *America’s Army*, an online game launched in 2002 by the U.S. Army to promote its world view to young people. Game players, either individually or as part of multi-player teams, are immersed in the world of the army through the completion of a variety of tactical missions. The game has been highly successful with over 5 million registered users (Gudmundsen, 2006; S. D. Harris, 2006; Stokes, 2005). While recruitment figures as a result of the game are not public, a 2003 survey suggests that it may be a more effective recruiting tool than traditional means (Schiesel, 2005).

The success of *America's Army* has helped to fuel interest in serious games as academia, organizations, and funders have gotten involved. As a result, there have been several more peace-oriented games that have garnered much attention and success. The following is a list of some of these games along with their strengths and weaknesses (based on a variety of sources and game play by the author who reviewed each of the games below):

Food Force, developed by the United Nations World Food Program, educates players on world hunger and the difficulty of delivering aid to war zones. The game is free and can be played online or downloaded (www.food-force.com). Called the world's "first humanitarian game" when it was released, Food Force has been downloaded over 4 million times making it as successful as major commercial game hits like Halo (S. D. Harris, 2006; Thompson, 2006). The game's global reach can be seen by the fact that these downloads have come from almost 200 countries (Gudmundsen, 2006). Strengths of the game include excellent graphics and design, first person game play, an informative website, as well as a variety of tools and resources for teachers. Weaknesses include the fact that the game must be downloaded to be played (rather than online) and the game is large (over 200 mb) which limits downloading to those with fast internet connections and adequate hard drive space.

UNICEF's *World Heroes* (www.unicefgames.com/heroes/frames_large.html) is relatively simple game that is focused on teaching players about the work of UNICEF in five main areas: education, clean water, nutrition, emergency and immunization. The object is for the player to move through different missions which involve catching aid items dropped from the sky. The site attracted over 11,000 visitors a day at its peak, relatively light traffic by internet standards, but still substantial for a non-profit (Richtel, 2005). Strengths of the game include accessibility via internet, ease of play, global focus, a multiple choice quiz and scrapbook as the game progresses and an excellent sound track. Weaknesses include simple game format, short length of time needed to complete the game, no teacher tools, and a lack of readily accessible information about UNICEF (on the actual game site).

The Nobel Foundation has two "peace" games within the serious games genre; *Peace Doves* and *Prisoner of War* (http://nobelprize.org/educational_games/peace/). *Peace Doves* teaches players about efforts to rid the world of nuclear weapons. Players of *Prisoner of War* learn about the Geneva Convention and American Red Cross, a three-time Nobel Peace Prize recipient, by trying to run a POW camp. Strengths are that both games are very informative, are easy to play, and have good sound effects. Weaknesses include short game length, game play related to correct answers to questions, simple game format, and some slow download times.

Darfur is Dying (www.darfurisfying.com), a game created as a result of an MTV-sponsored contest, aims to bring awareness to the genocide taking place in the Darfur region of Sudan. Around 700,000 people played the game in the first month and many of these participated in the political action segment of the website (Thompson, 2006). Strengths of the game are ease of play, reality, and link to political action (the player can

send an email to their political representative among other things). Weaknesses include difficult goals, cartoonish-quality graphics, and short game length.

Two other recent and more exclusive peace games, *A Force More Powerful* and *Peacemaker*, are in CD format rather than online versions like those listed above.

A Force More Powerful (www.afmpgame.com), reflecting the nonviolent concepts of the award-winning PBS documentary of the same name, is designed as a training tool for activists engaged in changing governments through nonviolent means. It was commissioned by the International Center for Nonviolent Conflict and developed by the media firm York Zimmerman Inc. and game designers at BreakAway Ltd. The game allows practitioners to try out tactics before they apply them in the field and to discover what unintended consequences may arise from these decisions. The game makes these tactics accessible to activists in places where live trainers might not be allowed. The game is being promoted via “word of mouth” to social policy organizations and as of late 2006, 5,000 copies of the game have been distributed (“Playing the field”, 2006). While the game has a disclaimer stating that the strategies may not work in the real world, one of the producers, Ivan Marovic, co-founder of the Serbian youth movement Otpor (Resistance), says that the hope is the player will learn principles that can be applied in a variety of settings (Thompson, 2006). AFMP is comprehensive and gives the player lots of choices. However, after generating much excitement, the game has received mixed reviews. AFMP is important in being the first of its kind, but it portrays an obvious political bias in applying a particular set of rules to all political conflict (Bogost, 2005). While the producers say that the game allows people to teach themselves (“Playing the field”, 2006; Thompson, 2006), others say the game should not be played by one person alone, but rather with a group or a trainer to avoid misrepresentation of the game’s paradigm (Bogost, 2005). The manual to play the game is very thick and the game is rather complex and complicated. The game play can be tedious, boring, and does not seem to be designed for children.

PeaceMaker (www.peacemakergame.com) has just been released following substantial time in the design phase and after receiving several awards, including winning the 2006 *Reinventing Public Diplomacy Through Games Competition* sponsored by the USC Center on Public Diplomacy (S. D. Harris, 2006). The game, designed by students at Carnegie Mellon University, focuses on the Israeli-Palestinian conflict and targets Palestinian and Israeli youth, though it is attractive to adults and others who are not gamers. Its aim quite simply is to teach peace (Burak *et al.*, 2005). The player takes on the role of the Israeli Prime Minister or Palestinian President (or both) and must make a variety of choices based on their responsibilities and current occurrences within the game (Thompson, 2006).

As the leader of one of the sides, the player must react strategically to in-game events, from diplomatic negotiations to suicide bombing and military atrocities, and interact with eight other political leaders and social groups to establish a stable resolution of the conflict before his or her term in office ends (Burak et al., p. 2).

Playing either side of the conflict allows the player to develop a more comprehensive understanding and empathy for the other side wherever they come out on the political spectrum.

Though it is a peace game, a player is not penalized for a “judicious” use of military actions, especially against “extremists” which may bring about positive results (Burak et al., 2005). However, too much force will plunge the area into chaos (Musgrove, 2005). The game combines news and video segments with turn-based game play. One positive of the game is that its produced by ImpactGames, an independent company formed by the students who began the project (Gudmundsen, 2006) which avoids the controversy of a peace game being produced by a company that also produces first person shooter (FPS) games.

I played the game as the Palestinian President and found the game to be intriguing though it did not take me long to finish. I liked the video segments which helped me understand the reaction of the public and I appreciated the minimization of graphic violence. There were some challenging aspects of the game play though after I figured out how to utilize a variety of strategies to raise my scores, I was able to win the Nobel Peace Prize. The game does offer the opportunity to play at a more challenging level and as both sides, though after I played it once I have not had much desire to play it again which says something. One strength of the game is that it is designed for youth (though it should have broad appeal as well).

Both AFMB and PeaceMaker are relatively low cost (\$20) compared to first edition commercial video games (\$50 on average) making the games more accessible to a greater number of people. Both games represent a coming together of game designers, game companies, students, and peace organizations in a collaboration that is essential for the development of games within this genre.

Controversy

Serious Games and the “peace games” described above are not without controversy. Such games raise the issue of whether video games can be art. Does designing games about real life situations like the Middle East conflict or the situation in Darfur minimize the gravity and tragedy of such situations? (Thompson, 2006). Should certain situations be off limits as subjects for game design, like Auschwitz for example (Frasca, 2001)? This issue was brought to the forefront recently by the release of Super Columbine Massacre RPG in 2005. The game, where the player plays the actual killers, was designed using “low-fi effects to avoid gratuitous gore and included actual dialogue from the teenagers to give insight into their troubled minds” (Thompson, p. 3). Even so, its release generated lots of anger within the families of victims and condemnation from the press. It should be noted that most survivors of the Columbine massacre who contacted the game’s designer, Danny Ledonne, did not disapprove of the game (Thompson, 2006).

Richard Castaldo, a student paralyzed from the chest down in the attacks, said in an interview posted at the gaming blog Kotaku that he had played the game himself. While he found it “a mixed message at best,” he also thought that “it gets

people talking about Columbine in a unique perspective, which is probably a good thing” (Thompson, p. 3).

The questions above are similar to those that were asked of film, which early on was not considered a medium worthy of tackling serious subjects. As the industry matured, theory developed and movies became a forum for serious discourse. Most people today would not question that this is one important purpose of film. The same can be argued for video games (Holland et al., 2003; Stokes, 2005; Thompson, 2006). As noted by the examples above, the genre is attempting to tackle controversial subjects and it remains to be seen whether it is possible to play a game and still enter into the realm of the serious and tragic without trivializing it.

Critical Analysis

The list of “peace games” above is by no means an exhaustive one. These are the more recent games that have generated a substantial amount of press and achieved a certain measure of success. These games are easy to criticize because they are the first in what hopefully will be many creations in the medium of peace-oriented serious games. The fact that they have been relatively successful bodes well for future games of the same genre. The critique is meant to flesh out the characteristics missing in the above games and describe those that can be strengthened in future peace-oriented games. Many of the games above utilize the design of a particular game which we will discuss next.

The Sims

In 1989, a game was released that would revolutionize the future of game design. Designed by Will Wright and produced by Maxis, the company he formed with Jeff Braun, *SimCity* allowed the player to manage a city and its citizenry, dubbed “Sims” (“The sims”, 2007, “Will wright”, 2007). As a result of its incredible success, the game has been the subject of much research by academia (Consalvo, 2003). The follow up game, *The Sims* (2000), which let players create and control a household of simulated people, was even more popular. The game was the best selling game of 2000 and 2001, and in 2002, surpassed *Myst* (1993) to become the best selling PC game of all time with 6.3 million copies sold world-wide (Walker, 2002). The entire *Sims*-series has sold more than 70 million units globally as of January 2007 (Burman, 2007). The game has spawned a variety of *Sims* expansion packs, other *Sim* games, as well as other games based upon its design such as *Zoo Tycoon*, *Railroad Tycoon*, *Civilization* and many others.

Some characteristics of note:

1) The game is a simulation of real life, hence the name. The designer, Will Wright, refers to the game as a “virtual dollhouse” (“The sims”, 2007, “Will wright”, 2007). The intuitive game design is relatively easy for players to engage with and simple for designers to copy. The game’s complexity is found in how much control the player is given over various aspects of the game.

2) “Winning” is not really a part of the game. The game does not really have an end; it can be played ad infinitum (Consalvo, 2003, "The sims", 2007). The possibility of failure does exist if the Sims are left alone by the player, asked to make poor choices, or their “fun” meter gets too low. These conditions can lead to depression, financial failure, and death by a variety of causes ("The sims", 2007).

3) There are no objectives per se. Rather the player is encouraged to interact with the gaming environment by helping the Sims make choices. The main goal is to help the Sims achieve personal goals through the organization of their time ("The sims", 2007).

4) The player gets to play God (Consalvo, 2003). The game design features a “big picture” view which gives the player the ability to see the entire game area as well control over multiple game objects and character actions. This “top down” (or isometric) view and type of player control have been copied in many games.

5) The *Sim* games are not only important because of their revolutionary game design but because they are basically nonviolent. There is conflict in *The Sims* if characters are ignored by the player and allowed to deteriorate. They will get angry and attack other *Sims*. *SimCity* games include realistic violence such as disasters. Some later versions in the series do have an increase of violence. However, for the most part *SimCity* and the *Sims* are considered “pioneering peaceful games” (S. D. Harris, 2006).

Critical Elements of Peace Games Design

Because the Sims are people, the game brings forth a whole different set of issues unlike games that involve mythical plots and creatures of fantasy. Morals and ethics, while not absent from other games, are a more prevalent part of the picture. We tend to pay more attention when decisions involve people, whether they are virtual or not (Frasca, 2001). Some of these issues come to the forefront by the limitation of choices within the game or the fact that these choices do not exist at all. A look at these limitations compared with those of the examples above paves the way for a discussion on some important elements to be considered for designing effective peace-oriented games.

1) Go beyond Isometric Perspective

As noted earlier, the majority of the peace-oriented games described above have either a 3rd person perspective and/or the isometric model popularized by the Sim games. Isometric refers to a top-down view of the scene where the player can manipulate various pieces or items in large playing area, much like a general moving play units on a mock battle map (McMahan, 2003; Rollings & Adams, 2003). The isometric model works because players are familiar with it and isometric games are relatively easy to design and develop. Hence, this familiarity and model architecture are the reasons why the majority of our examples utilize this framework. This “top sight” provided by games with isometric designs is one characteristic that can help foster learning towards long-term solutions to global problems with diverse and complex characteristics, according to Dave Rejeski, head of the Serious Games Initiative (Stokes, 2005).

However, this over utilization of the isometric framework is partially responsible for why most of the games above suffer from a critical flaw, the lack of *immersion*. It also ignores the recent shift away of games from the isometric model to first person 3-D perspective (McMahan, 2003). Of the games described above, Food-Force is the only one that contains elements of first person 3-D. It is also the most popular of those listed above (at least the online ones – AFMP and Peacemaker are still too recent to determine how successful they are or will be). In order to completely immerse players within the possibilities of peace, I believe that peacemakers will need to master the art of developing 3-D worlds that can be engaged in from the first person. First person shooter (FPS) games, which generate a lot of controversy due to the amount of graphic violence they contain, are not simply popular because of the violence (although studies show that sex and violence do contribute to how much attention one pays to something) (Douglas A. Gentile & Gentile, 2005). FPS games are popular because of their ability to immerse the player within the world of the game. And 3-D games do not need to be violent to create this deep level of immersion. The MYST series is one example. Before the Sims, MYST was the best-selling video game of all time (as noted above).²

Immersion can be possible within games of isometric form if there are social relationships within the game. This is where the Sims and other commercial games succeed. If this social element is not a strong part of the game, its ability to immerse the player within the game world will decrease.

2) Be Aware of Ideological Bias

All games have an ideological bias. The designer places boundaries on the game and limits on the choices that the player can make. Some limits are necessary to keep a game playable. Some reflect the values of the designer, game company, or society at large, whether consciously or unconsciously.

Take sexuality, race and gender in the Sims for example. The Sims “is perhaps the most progressive game yet released concerning sexuality” (Consalvo, p. 181). The designer, Will Wright has said in interviews that he designed the game to allow for “gay relationships.” Same-sex couples can kiss and sleep together although they cannot marry or have children, except possibly through adoption. In the game and its instruction manual, the primary sexual relationship the game affirms is heterosexual. There is no nudity in the game. While the player can create their own Sim with diverse characteristics, these are limited and the default character that pops up is a middle-aged white heterosexual male in white collar attire (Consalvo, 2003, “The sims”, 2007).

Bodies have their own sets of norms built in as well --- no body is disabled or obese, with the majority being slim and toned (Consalvo, p. 185).

² While I believe the immersive quality of a game is a key to its success, it should be noted here that Frasca (2001) makes a case for non-immersive serious games patterned after the work of Augusto Boals’ *Theater of the Oppressed* (see reference below).

So there are possibilities to explore areas outside the norm and the player does have some choice in making the Sims resemble their own families. However, the game has obvious limits.

Another bias within the Sims is the fact that success and happiness within the game are determined through the lens of materialism. The better off your *Sims* are financially the more friends they will have (Frasca, 2001).

One of the main critiques of the “peace” games above is their political bias (Bogost, 2005). As more organizations attempt to enter the field of advergames there is a concern for the creation of a lot of overly simplistic, bad games (Thompson, 2006). Which leads us to a third element critical to peace-game design – moral complexity.

3) Explore Moral Complexity

There is no doubt that video games are fun. If they weren't, people would not be playing them. However, to design a game that is educational and fun is not easy. And to design a game that is fun, educational, and “politically-nuanced” is even more difficult (Thompson, 2006).

Building morally ambiguous worlds, that's a lot harder. We've won the hype wars. People accept that games can be good for talking about issues. But now we need a killer app. (Gee in Thompson, p. 5).

As noted above, the danger is to “oversimplify an issue by reducing a complicated concept into proverbial good guys and bad guys”(Richtel, 2005). Death and/or tragic circumstances such as natural disasters and wars can be trivialized by video games.

Within the Sims for example, death does exist but in a limited way through starvation, drowning, perishing in a fire, electrocution and by a virus from a guinea pig if the cage is not kept clean. There is depression but suicide is not possible. Adult Sims never grow old or die. Children never grow up. (Consalvo, 2003, "The sims", 2007)

A player can let things get out of control simply to observe what happens, using the Sims like rats in a laboratory. The player can also experiment with a variety of choices and decisions. There are no consequences if the game is not saved. The player can always revert to an earlier version where everyone was happy.

In real life, the consequences of our decisions are not binary. Unlike what happens in games, there is a broad spectrum of possible results. If we try to see the real world from a win-lose perspective, the results are simply pathetic (Frasca, pp. 4-5).

This ability to go back or try out different decisions is called reversibility. Trial and error is an important element of games that makes them attractive to players and excellent learning tools. However, there are no consequences for a player's actions. Frasca (2000) has developed a solution which he calls an OSGON, or One Session Game of Narration.

This is a single user game with irreversible actions and it can be played only one time. The game lasts only a certain amount of time and because death in the game is final, it is more difficult to die in the game. Frasca does not see these games taking over the current replayable format, but as a separate distinct genre of games (Frasca, 2000).

Peace-game designers need to be aware of over-simplification of issues and of buying into the status quo of current game design. They need be willing to think “outside the box” in order to create consequential worlds that grab people and push them to see an issue from a variety of perspectives.

4) Design with the Future in Mind

Much like the Sims games have served as a model for countless other games, the architecture of current peace-oriented games can serve as models for future games within the genre. This is actually a hoped for outcome by the designers of PeaceMaker who state:

PeaceMaker’s architecture may be used to create games about other historical and present conflicts, e.g. the Korean War and the Indian-Pakistani conflict over Kashmir. The digital assets that comprise the interface may be swapped easily, and changing the digital library of images and videos does not require a change in architecture. The primary challenge when creating a new game is selecting the proper variables to create a plausible model for the conflict in question (Burak et al., p. 4)

One caution is related to my earlier discussion of the over-utilization of the isometric perspective popularized by the Sims. Peace-game designers should explore a variety of game architectures and be willing to create new frames of game design that will impact the industry as a whole.

5) Design Out of Communities of Practice

Peace-games need to be grounded within practicing communities of peace. These communities of practice include those engaged in historical and current peace thought and work such as the Center for Justice and Peacebuilding at Eastern Mennonite University and other similar professional and academic centers throughout the world as well as religious peace organizations and traditional “peace churches.” At the same time, those interested in designing peace games should also be grounded within the Games for Change (G4C) initiative of the Serious Games movement which, as mentioned above, is the community of practice for those wishing to design games around global issues such as peace.

Take the example of America’s Army, the popular “serious” game developed by the U. S. Army. The Army takes game designers on a live training session with soldiers so that they can get a feel of what it’s like to be in combat and to experience it from the soldier’s point of view (Schiesel, 2005).

'This whole experience kind of makes me wish I had joined,' Erich A. Blattner, 34, the game's quality-assurance director, said between rifle training sessions. 'Essentially I'm very much a cynic, and in my job being cynical comes in handy because as a Q.A. manager I have to question everything. But the people I see in the military genuinely believe and feel that they are doing the work of good.'

Mr. Montgomery, aka Monkey, a 3-D level designer, often appeared more military than the soldiers. Walking out of the mess hall about 7:15 a.m. swathed in camouflage and a black balaclava and face mask, and draped with numerous pouches and straps, he looked ready to infiltrate enemy lines (Schiese, p. 2).

There is a sense that the designers actually “join” the Army’s community of practice. They are so immersed in the experience that they become *believers*. As a result they are not only able to design more realistic environments but games that more accurately reflect the values of the community of practice, in this case the U.S. Army. They help to achieve the stated goal of the game, which is to “strategically communicate the Army's values to the American public” (Schiesel, p. 4).

Peace-game designers need to be immersed within communities of nonviolent practice so that games can be designed that are as closely connected as possible to the practices and values of these communities. They should also be a part of the broader gaming community as well as more specific communities of practice such as Games for Change. The broader the community and the conversations around a game’s development the greater the likelihood the game will not only accurately reflect the values of peace, but be imaginative, well-designed, and have broad public appeal.

6) Be Aware of Violence

The subject of violence in video games is important enough to warrant an entire separate paper on the theme. The purpose of this paper is not to address this theme per se though it is necessary that we give some time to the subject. Suffice it to say that within the video game field there is a lot of controversy around whether violence in video games causes violence and aggressiveness within players, especially youth. Opinions vary between those in the gaming industry and digital game based learning proponents who believe that video games do not cause violence (Squire, 2003) as opposed to behavioral scientists whose research supports the opposite claim (Douglas A. Gentile & Gentile, 2005; D.A. Gentile et al., 2004). There is a question about whether past research into media such as TV applies to video games and whether the research is recent and comprehensive enough (Squire, 2003). More research is needed on the subject and peace game designers need to consider the research as they design. Regardless where one comes down on the subject, it is important that designers of peace-oriented games consider seriously whether to include violence in their games and if so, the amount and graphic nature of the content. My personal opinion is that violence should be kept at a minimum if included at all when designing peace-oriented games.

As noted earlier, the two best selling commercial games of all time, the Sims and MYST, were for the most part nonviolent games.

Conclusion

As mentioned above, one distinction of a video game is the creation of an alternative, “virtual” world. A game is successful if people accept the invitation to enter into the world of the game and then return to this world again and again.

(Video games) present players with simulated worlds: worlds which, if well constructed, are not just about facts or isolated skills, but embody particular social practices. Video games thus make it possible for players to participate in valued practices (Schaffer et al., p. 2).

If the above quote is true than the implications are extraordinary. Can video games be developed which create nonviolence as a social practice that has value and which invite people not only to participate in the world where that practice is embodied, but own the values such practice presents? I believe the answer to this question is an unequivocal and resounding, Yes!

Will Wright, the architect behind the Sims, ended his comments at a recent conference by “reminding game creators that their works have the power to influence the players” (S. D. Harris, 2006). Ultimately, video games offer peacemakers a unique and powerful tool that has the potential to positively impact players and teach them a more peaceful way. We as peacemakers are limited only by our imagination and creativity.

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Play, Imagination, Abstraction, Immersion, Agency
Addendum to Video Games as Change Agents for Peace
Various Theories and their Relationship to Peacebuilding and PeaceGames
Keith Lyndaker Schlabach

The purpose of the preceding paper is to describe video games as 1) a global phenomenon, 2) as essential to human development 3) as educational 4) as potential change agents 5) and finally 6) as peace makers. Its purpose is to give an overview of video game history and theory for the non-gamer and gamer alike with the hope that it will inspire those within the field and without to understand this potential and begin to put resources, time, and imagination behind the development of peace games. The following is an attempt to flesh out the discussion by looking at several theories and how they relate to peacebuilding and the peacegames.

Individual Agency and Society

Rational Choice Theory (RCT) says that humans are self-interested individuals and make decisions based on this self-interest regardless of context, society, or environment. This is primarily an economic theory (human = homo economicus) and arose as a reaction to the idea that individuals are programmed beings, i.e. “cogs in the wheel,” with little or no choice in relationship to their agency. As Burns (1994)³ points out, RCT is simplistic as it assumes that the actor knows all of the information he/she needs at any given time to make a decision and can follow the same rationale in any context where it is universally applicable. One never knows all the variables. We “see through a glass darkly” to put it in spiritual terms.

This is the case for peacebuilders on the ground. One never gets the full picture. The number of windows into a conflict is in direct proportion to the number of persons in the conflict- each has a different perspective which often is shifting and does not remain stagnant because the person is not in a vacuum. He/she is operating within a context that involves conflict in relationship to a society in flux and in relationship to persons who are experiencing the same shifting perspectives. Does the peacebuilder have agency to affect change in such a context or the ability to empower others within the context to affect change? It seems to me that the idea behind a peacebuilder learning all of these skills is the belief that the individual can affect change by utilizing a set of skills learned in a totally different context (academia) then the conflictual context where the peacebuilder may need to apply the skills. As noted above, this is the critique of AMFP game. The fear is that players of the game will attempt to take the simplistic notions from the game and apply them in their real-life context with disastrous results. Social Game Theory (SGT) argues that the actions of humans are embedded in a social context. Culture/society provides the rules that players/actors play by. Actors can reshape the rules but generally do not act out of a rational, self-interest. Related to this theory is the systems concept of

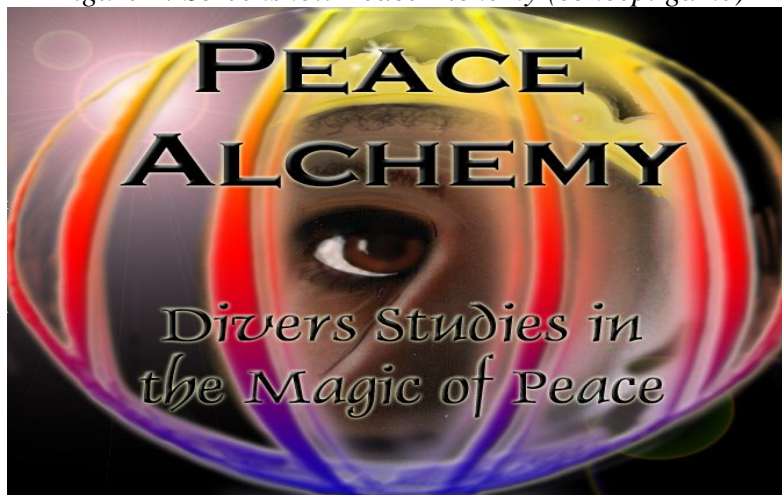
³ Burns, T. R. (1994). Two conceptions of human agency: Rational choice theory and the social theory of action. In P. Sztompka (Ed.), *Agency and structure: Reorienting social theory* (pp. 197-249). Langhorne, PA: Gordon and Breach Science Publishers.

Finite and Infinite Games developed by James Carse. A finite game has rules, has a goal/end, and is played to win. An infinite game does not involve winning or losing, has no definite end, and is open to more and more players. The Structuration Theory proposed by Anthony Giddens is an attempt to balance RCT and SGT by describing a fluid relationship between actors and structures. Individuals have agency but structures shape individuals and individual decisions shape structures. Environments of conflict vary with actors having more or less agency depending on the choices available to them.

Intuition: An Alchemy of Peace?

It is important for the peacebuilder to have at least a working knowledge of all of the theories above and others to avoid blinders and what I call “an intuitive block.” It seems to me that intuition plays a critical role in how effective the peacebuilder is in a conflict, in determining what choices are available to them, in knowing what to say/do, and when to make a decision. John Paul Lederach in a 2004 *Fundamentals of Peacemaking* class described a point in peace negotiations that he was assisting with when something shifted, when the air in the room changed. Malcolm Gladwell (in his book of the same title) would call this “The Tipping Point,” where a moment becomes so pregnant that there is birth. I call this magic. Have we as peacebuilders lost the ability to learn and teach magic – i.e. peace wizardry? It seems to me that the Alchemy of Peace (as such a course/game might be called) would involve exercises in intuition, imagination, and fantasy. And an acknowledgment of the Spirit of Peace at work in the world. Might video games with their ability to invite players to participate in fantasy be useful tools in developing such “magic skills/second sight” in peacebuilders?

Figure 1: Screenshot: Peace Alchemy (concept game)



Finite Infinity: Abstraction

Video games are generally finite games though I would argue that they possess elements of infinite games as well. They are finite in that they have rules, have a definite goal/end and are based on the win/lose idea. However, as noted above not all video games subscribe to this notion. The Sims for example could be described as an infinite game because it has no definite end and is not based upon winning or losing. Video games then

have the potential to be more fluid and such capacity should be exploited within the context of peace games. One way that this can be accomplished is through the development of more abstract games that utilize more internationally known symbols and sounds rather language or a particular “realistic” storyline. The simplicity of abstraction allows the player to make intuitive connections which could have exciting effects within the real world. The player’s imagination can be engaged as he/she fills in details. Wolf (2003)⁴ describes the idea that abstraction can be a comfort during difficult times which describes the incredible potential ability of such games to positively influence people in conflict situations.

Figure 2: Screenshot: Gaia (abstract meditative concept game)



Agency and Immersion

Agency (defined as the capacity to make decisions) and immersion (see definition above) are the two holy grails of video game design. The idea is that if the player experiences immersion and feels like they have agency then they will have a good experience and the game will be successful. As noted above, a video game is an interactive environment. Decisions (the click of a mouse) have direct and immediate results (something happens on the screen). There is an immediate response. The question then is whether a player has true agency or is simply a puppet directed by the rules of the game? There is research to suggest that video games create in players the idea that if they simply follow the rules of

⁴ Wolf, M. J. P. (2003). Abstraction in the video game. In M. J. P. Wolf & B. Perron (Eds.), *The video game theory reader* (pp. 47-66). New York: Routledge.

the system presented to them than they will win (i.e. follow orders and you will succeed). This is problematic according to the author because kids are developing into “Yes” people. This raises the question of whether video games can be designed that will actually give more agency to the player and have them truly utilize their creativity to solve problems inside and outside the game.⁵ Grodal (2003)⁶ argues that it does not matter whether the player has “true agency” or not as long as the player *feels* like he/she has agency. I would describe this as virtual agency. Designing a game with true agency is very difficult but there is reason to believe that games will be more perceptive to player needs in the future. Regardless where one comes out, the question remains: Can peacegames be designed which give the illusion of agency (i.e. empower the player to act) and also help the player make the connection and be empowered to act in the real world? Frasca⁷ is attempting to emphasize player agency by proposing a game that is character-driven where the character behaviors can be controlled by the player. The idea is based upon the work of Augusto Boal’s Theater of the Oppressed and is utilized to facilitate consciousness-raising. Frasca labels the game “The Sims of the Oppressed,” basing it loosely on The Sims game with many additional features. Moving away from Aristotelian ideas (from theater) that permeate current video game design, the goal is to pull the audience (player) out of immersion and get them to critically think about what is going on before them. This idea is intriguing in its applications to peacegame design and provides a format for a truly innovative game architecture.

Peace is Serious Business? Make Room for Joy (and Other Emotions)

As noted above within the theory of animal play, violence is suspended during play. The normal rules of engagement do not apply. Violence is serious. Peacebuilding does not have to be. Peace should be engaged in out of joy. Even the title “Serious Games” to describe the new genre of edutainment alludes to this tendency among issue-oriented people (like peacebuilders) to lean towards seriousness. “We mean business. We are serious about making a difference in the world.” Hence, most of the games as described above are so serious they are not fun. When the essential element of fun is lost in games, they quickly lose their ability to draw the player in and trigger the emotions that hook/teach them. Violence does not have to be advertised. It is an automatic hook. It is exciting. Are humans wired to respond to violence? Can peace even compete as a hook?

There is also a tendency for peacegames as exemplified by AFMP and PeaceMaker to be overly connected to realism. The problem with PeaceMaker is that I played it for 30 minutes, brought peace to the region, and won the Nobel Peace Prize. Unfortunately, there was a disconnect between my resolution and what I still see occurring in the region at this time. I have a hard time consolidating the two. Again there is the dilemma as described earlier with dealing with serious issues in an overly simplistic way. As I have

⁵ Suellentrop, C. (2007). Playing with our heads: Why video games are making our kids smarter-and more obedient. Retrieved May 8, 2007, from http://www.utne.com/issues/2006_139/cover_story/12401-1.html

⁶ Grodal, T. (2003). Stories for eye, ear, and muscles: Video games, media and embodied experiences. In M. J. P. Wolf & B. Perron (Eds.), *The video game theory reader* (pp. 129-155). New York: Routledge.

⁷ Frasca, G. (2001). Rethinking agency and immersion: Videogames as a means of consciousness-raising. Retrieved November 23, 2006, from <http://www.siggraph.org/artdesign/gallery/S01/essays/0378.pdf>

mentioned above, this again suggests the need to move away from reality to abstraction. While AFMP does utilize a fictional country, both of these games are too grounded in reality to trigger the fantasy element necessary for immersion and emotional-learning.

Figure 3: Screenshots: Build (International symbol oriented concept game)



As noted earlier good games trigger emotions and emotional connection fosters learning. Emotion can change the brain.⁸ Fight or flight responses (adrenalin) and the rewards systems (dopamine) are critical elements of many video games. Brain research has shown that these emotion chemicals in the brain can be triggered by violent video games.⁹ What is the potential for designing a peace game that triggers serotonin (sleep and peace) or joy and creates more peaceful/joyful people?

The Culture of the MMOG

The theories described above allude to the impact of culture on the agency of humans. Massive online multiplayer games (MMOGs) create their own cultures which impact the players. Research has shown that these games primarily foster bridging capital (broad but weak social networks) over bonding capital (deep but narrow social networks) among players.¹⁰ Players join guilds where they help each other understand the rules, go on joint adventures to slay monsters or earn treasure, and help each other strengthen their characters. Game forums contain a host of advisory and game related commentary. Collaboration and teamwork are the order of the day.¹¹ Can a MMOG peacegame be designed that utilizes this bridging social capital, collaboration, and teamwork and yet follow the storyline of people working together to rebuild a world, with values of giving rather than getting and of building rather than destroying or killing? There is enormous potential for these games to bring lots of people together in a culture of peacebuilding.

⁸ Zull, J. E. (2004). The art of changing the brain. *Educational Leadership*, 62(1), 68-72.

⁹ Mungerlf, D. (2006). This is your brain. On violent video games. Retrieved May 27, 2006, from http://scienceblogs.com/cognitivedaily/research/video_games_technology/

¹⁰ Steinkuehler, C. A., & Williams, D. (2006). Where everybody knows your (screen) name: Online games as "third places". *Journal of Computer-Mediated Communication*, 11(4).

¹¹ Gee, J. P. (2003). What video games have to teach us about learning and literacy. *ACM Computers in Entertainment*, 1(1), 1-4.

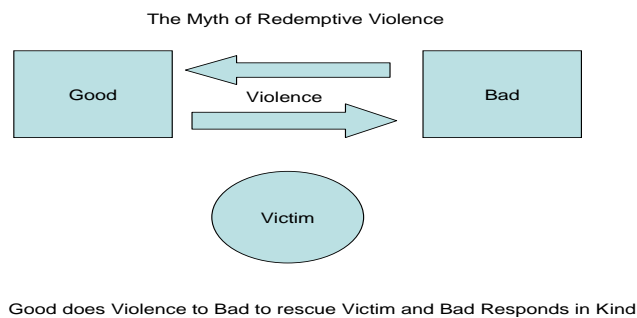
Figure 4: Screenshot: Redemption Eden (MMOG concept game)



The Myth of Redemptive Violence

Most games reflect the paradigm of redemptive violence. Violence solves problems. Violence helps me escape. Violence helps me get rid of the monster or my enemies. Violence helps me get stronger. Violence helps me get more money. The Myth of Redemptive Violence¹² as developed by Water Wink is the idea that violence is what is needed to rescue victims from the bad, i.e. violence saves. There is a cycle of imaging that takes place where the good and bad become mirror images of each other. There is a need within society and within video games for a paradigm shift. A re-imaging as it were. Games can be a tool for this shift by creating virtual worlds that reflect these new paradigms.

Figures 5 and 6: The Myth and Revolving Cube of Redemptive Violence



¹² Wink, W. (1999). The myth of redemptive violence. Retrieved May 9, 2007, from www.biblesociety.org.uk/exploratory/articles/wink99.doc

The Revolving Cube of Redemptive Violence

