

**The Enchantment of the MMOG—
What Makes MMOGs Absorbing and Their Potency to Change Society and Culture**

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Introduction

Everyone has experience playing games. It may be golf, casino slot machines, *Poker*, *Monopoly*, *Super Mario*, or simply playing with dolls; the games we have played throughout our lives are so numerous that it would be impossible to list them all. The games we have played cross not only different levels of form—from simple games like playing with dolls to elaborate, developed game forms such as playing golf—but also various genres: sports, gambling, card games, board games, console games, computer games, and more. Although the games we have played are so numerous and diverse, the tension, gaiety, and fun we have experienced while playing each of them is easy to recall and in many cases unforgettable. You will always be able to recall how persistent you were with the casino slot machine and the moment when you finally won the jackpot; the efforts you put into learning golf, and finally your mastery of the harmony between the swinging of clubs and the movement of balls; or the simple fun you experienced playing with your favorite doll. The enchanting, captivating quality of games, which arouses the tension, gaiety, and fun of the game playing experience, remains the same across all

forms and genres. Moreover, in this enchanting and captivating quality lies the essence of game playing.

MMOGs—massively multiplayer online games, the subject of this paper—succeed in producing, even more strongly than many other games, the enchanting and captivating quality essential to games; since at the core they are games, and furthermore they are supplemented by computer technology, they are all the more potent for creating an absorbing and immersive environment for their players. For this reason, it is critical that a study of MMOGs pursues an understanding of games and game play. J. Huizinga, in his renowned work *Homo Ludens*, proposes several provocative notions: the core characteristics of play (freedom, non-ordinary life, secludedness, order, non-profitability, and social community formation, as discussed in the next section), the intensity and absorption occurring in play, and how play functions as a social construction that has led to the formation of human civilization; Huizinga explains that these three aspects of play connect with each other and explain the whole story of play. This paper accepts Huizinga’s concept of play and applies it to a new form of game, the MMOG. Although MMOGs are quite different from the examples that Huizinga studies—language, myth, and ritual, the primordial human activities—MMOGs, which represent the era of new media and computer technology, nevertheless conform to Huizinga’s concept of play:

MMOGs manifest and renew all of the characteristics of play Huizinga identifies (with some modification); they produce great intensity and absorption during the game playing experience, and finally they manifest the construction of a techno-culture, in which the physical and virtual worlds have merged together, forming a totality in our modern lives.

To understand how and why MMOGs conform to Huizinga's concept of play, naturally the explanation is rooted in the characteristics of MMOGs themselves—*inter-action*, among the player, the other players, and the game, which is controlled by the computer; the *representational correspondence*, through the interface, between the player's physical action in the off-line world and her avatar's action in the on-line world; and the interrelationship between *numerical codes and 3-D explorable space*, expressed by the translation between these two levels. Through the probing of the main characteristics of MMOGs themselves, a clear understanding emerges, explaining how the MMOG corresponds to Huizinga's characteristics of play; how the great intensity and absorption develops during the game playing process; and how the MMOG facilitates and helps to construct a techno-culture. In exploring and connecting these structural and cultural aspects of MMOGs, Marc LeBlanc's MDA—Mechanic, Dynamic, Aesthetic—framework is helpful here and is adopted as the second structural element of this paper: an examination of games first in terms of their mechanical characteristics, then

in terms of the gaming dynamics derived from the mechanical characteristics, and lastly in terms of the social and cultural impacts on the aesthetic level that arise from the gaming dynamics. The social and cultural impacts of MMOGs may be good or bad, but regardless of the moral issue, these impacts are significant and indicate that human society is now stepping into a new era which is characterized by computer technology and virtual reality.

In pursuit of this theme, this paper will discuss first the general concepts of play (primarily as described by Huizinga), examining how play connects to games, and in particular MMOGs; secondly, the MDA framework will be introduced; finally, this framework will be utilized to explore the mechanical characteristics of MMOGs and discuss the gaming dynamics and social and cultural impacts instigated by each of them. Moreover, in addition to studying and analyzing scholarly theories, a major part of this paper, interviews with MMOG players (mainly from *World of Warcraft*) and my personal experience with recent popular MMOGs (mainly *World of Warcraft*, *The Sims Online*, and *Second Life*) will be incorporated in order to strengthen the paper's arguments..

The Concept of Play and Games

What is *Play*?

Play is a word that we use commonly in daily life, but do we really understand the

connotations of the word when we use it? In order to study the elements that make up a game, which will be critical to our explorations of MMOGs, of the elements that make a playing experience intensive and absorbing, and of how playing MMOGs can impact the broader culture, it is necessary to clarify and examine the deeper meaning of the term *play*.

Huizinga, a Dutch cultural historian, proposes the extraordinary concept that *play* is bestowed by Nature as an innate function of humans; moreover, according to Huizinga, play is even older than culture, and formed the starting-point of all social order, social institutions, and even human civilization itself. Nature, on account of some reason that is perhaps beyond humans' logical reasoning, endows us with a fundamental function—*play*. Like other fundamental human activities that have practical functions, such as resting when we are exhausted and gathering food when we are hungry, *play* is also bestowed by Nature. Therefore, Huizinga claims,

In culture we find play as a given magnitude existing before culture itself existed, accompanying it and pervading it from the earliest beginnings right up to the phase of civilization we are now living in (Huizinga 4).

Following the theme of this concept of play, Huizinga indicates that all primary human activities, such as language, myth, and ritual, were inspired and initiated by play. Play is

involved in the formation of language in the following manner: “In the making of speech and language the spirit is continually ‘sparkling’ between matter and mind, as it were, playing with this wondrous nominative faculty. Behind every abstract expression there lie the boldest of metaphors, and every metaphor is a play upon words. Thus in giving expression to life man creates a second, poetic world alongside the world of nature” (Huizinga 4). Similarly, in both myth and ritual, a playful and vivacious spirit permeates: the generation of myth and ritual is through a play of imagination regarding the natural world, shifting between fanciful jest and sincerity. It is in this way that play serves as a social construction and facilitates the formation of human civilization and culture.

If this concept of play sounds unusual and extraordinary, indeed almost no preceding study of play proposes a similar concept. Moreover, Huizinga points out that many scholars have attempted to study *play* through the erroneous assumption that play must serve some other biological and/or physiological function, rather than looking for value in play itself; play has been considered as “a discharge of a superabundant energy,” “a satisfaction of some imitative instinct,” or “a training of the young creature for the serious work that life will demand later on” (Huizinga 2). However, all of these biological analyses provide no explanation for the essence of play—the intensity and absorption that it engenders:

So far so good, but what actually is the *fun* of playing? Why does the baby crow with pleasure? Why does the gambler lose himself in his passion? Why is a huge crowd roused to frenzy by a football match? This intensity of, and absorption in, play finds no explanation in biological analysis. Yet in this intensity, this absorption, this power of maddening, lies the very essence, the primordial quality of play (Huizinga 2).

Therefore, insisting upon a perspective opposite to that of biological function, Huizinga stresses that play has a meaning in itself; instead of inquiring into why we play, he argues, we should adjust our focus onto what play itself is, what it means for the players, and what the significant functions are of play itself.

Concluding from the notions suggested by Huizinga, we now have developed a more comprehensive understanding of play. Play, with its essential elements—“intensity,” “absorption,” and “power of maddening”—is a creative vigor: through an engrossed manner and an invigorated mind, something significant is generated, and this thing can be as great as the foundations of human civilization and culture. Another notable claim of Huizinga is that although play existed before culture, play and culture have actually interwoven with each other over time. Play remains the essential force of creation, while culture is the underlying circumstance that shapes what is created; moreover, that which is created by play in turn influences the underlying culture. Thus, play and culture

coordinate with each other, forming a spiral of innovations and changes that forward the evolution of human culture. MMOGs, provide a good demonstration of this spiral: the playing of MMOGs, which produces the same intensity and absorption as all games, yet utilizes modern devices built by our evolved techniques, has impelled human culture into a new form that is characterized by the invention of computer technology and virtual reality.

The Characteristics of Play and the Connection with Games and MMOGs

Now that we understand that *play* signifies a creative vigor, a more detailed definition of play will be helpful to comprehend play and its relationship to its twin concept—the *game*. Huizinga defines play as follows:

Summing up the formal characteristics of play we might call it a free activity standing quite consciously outside “ordinary” life as being “not serious,” but at the same time absorbing the player intensively and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means (Huizinga 13).

From this long definition of play, we can extract six primary characteristics of play—freedom, separation from ordinary life, secludedness, order, non-profitability, and the formation of social groupings.

It is worthwhile to undertake a closer examination of the six characteristics, one by one. First of all, play is a voluntary and free activity; if one is ordered or forced to play, it is not play any more. Secondly, play is different from ordinary or “real” life, a temporary stepping out of real life into another sphere with its own characteristics. Thirdly, play is denuded of material interest and profit. The fourth characteristic, secludedness, is connected to the second one: play constructs a sphere distinct from real life in terms of both space and time; play has limitations, occurring within a certain limited space in the ordinary world and lasting for a certain duration of time, after which it will be over. Fifthly, the sphere of play, rather than being chaotic, is governed by order—by rules. Players agree upon a set of rules before initiating play, and then it is the players’ conformity to the rules that sustains the integrity of the play sphere. If anyone disobeys or disregards the agreed-upon rules, the constructed play sphere—the magic circle—will be broken. Accordingly, from the fact that the magic circle is created and maintained by the players arises the last final characteristic—the play community. The play community is the key element of constructing a successful play sphere (magic circle); and more

importantly, the contribution of each player to the shared sacred play space forms an intimate and tenacious relationship, a bonding, among the players. As a result, a play community generally has a stronger connection among its players than other social groupings have, and the connections tend to endure longer, even beyond the end of the game.

Although the above characteristics and definition regard the term *play*, nonetheless the image of the *game* is apparent; if *game* is substituted for *play* in the descriptions of play above, the whole meaning remains nearly the same. Roger Caillois, a French sociologist and anthropologist, points out that Huizinga's concept of play is actually an interpretation of the "spirit" which permeates games and rules their proceedings. Moreover, Caillois indicates that Huizinga's work on play focuses on the "creative quality of the play principle in the domain of culture" (Caillois 4), and therefore is not truly a study of games. Caillois, on the other hand, connects *play* directly with *games*, and further modifies Huizinga's definition of play in order to align it with all types of games¹. One of the notable modifications made by Caillois is his revision of Huizinga's *non-profitable* characteristic to the term *unproductive*. Caillois points out that Huizinga's view that play is denuded of all material interest excludes bets and games of chance.

¹ Caillois defines play as an activity which is essentially free, separate, uncertain, unproductive, governed by rules, and make-believe (Caillois 9-10).

Caillois proposes that material interest may be involved in play and/or games, but that “neither goods, nor wealth, nor new elements of any kind” are created; “except for the exchange of property among the players, ending in a situation identical to that prevailing at the beginning of the game” (Caillois 10). As a result, Caillois suggests the term *unproductive* to define play.

Having identified the main characteristics of play and how they can be connected to the twin concept of games, we may now consider how the characteristics of play can be linked specifically to MMOGs. This paper will borrow Huizinga’s characteristics of play, but replace *non-profitable* with Caillois’ *unproductive*, in examining the MMOG. Hence the characteristics of play that will be utilized here are *freedom, non-ordinary life, secludedness, order, unproductiveness, and the formation of social groupings*. During the process of linking these characteristics to MMOGs, we will see that while MMOGs succeed in producing most of the primary characteristics of play, the meanings of many of them have been refreshed or altered.

Firstly, the playing of MMOGs remains primarily a free, voluntary activity, except for “gold farmers”² who play MMOGs as a full-time salaried job; in this case, according

² Some businessmen exploit the value of in-game items in popular MMOGs by opening sweatshops of a sort that are equipped with computers and hiring low-paid labor to play MMOGs as a full-time job. The selling of valuable in-game items gained by this labor can make a big profit, and these laborers are referred to as “gold farmers.”

to Huizinga's and Caillois' theories, the gold farmers' act is not entirely voluntary and hence it is not play any more. Secondly, is playing MMOGs different from ordinary or real life to the players? Initially, it seems that it is: in turning on the computer and starting up the game, the player knows that she is playing a game, doing things in a virtual world different from the physical world where our ordinary life exists; however, because of the captivating quality of MMOGs, a phenomenon has emerged of one's virtual life in a game integrating with her off-line life, both contributing to form the player's *real* life. Thirdly, although Caillois adjusts the term describing the characteristic from *non-profitable* to *unproductive*, this feature of play is nonetheless inappropriate for MMOGs; the in-game items acquired in popular MMOGs are often actually worth a high value, both in virtual (game) currency and in real-world currency, and players commonly trade these valuable items either in both currencies. MMOG players are not playing the games and acquiring the items *because* the items are valuable—rather, they are playing the games because they enjoy it, and the items just happen to be valuable. When a player plays *because* of the value of the items, like a gold farmer, rather than for fun, then at that point it is no longer play.

Fourthly, does the MMOG conform to the characteristic of secludedness, existing within certain limits of time and space? In theory, it does. Huizinga describes that the

spheres constructed by play are all “temporary worlds within the ordinary world, dedicated to the performance of an act apart” (Huizinga 10). Just like this description, the play sphere of MMOGs is secluded, confined within the computer screen and dedicated to the activity of the game; it is “*another* virtual space...enclosed by a frame and situated inside our normal space” (Manovich 95). On the other hand, however, although the MMOG is limited within the screen and is finished for the player when the player turns off the computer, nonetheless its influence on the player endures, extending from the confined space and time of the game. For instance, the play community maintains their fellowship even when they are not playing the game (by exchanging personal messages on game-related websites, trading in-game items in the off-line world, contriving strategies together to win the game, and so on.) With this, we can jump to another characteristic of play—the formation of social groupings. Since MMOGs are “massively multiplayer” online games, they certainly encourage interaction among players to some degree, and accordingly produce social grouping of players. Moreover, the player groupings, as mentioned above, tend to remain even when the players are not playing the game; just as in Huizinga’s explanation, “a play community generally tends to become permanent even after the game is over” (Huizinga 12).

Finally, MMOGs surely succeed at the play characteristic of order and rules. Each

MMOG is governed by its own set of rules, which are designed specifically for the particular game; both the players and the game program follow this set of rules, and this is how the game proceeds. Moreover, the order of the game world is thus maintained. However, another new layer of order is been added in the MMOG, a computer based game. On one hand, the players—the human layer—agree to the rules and act in accordance with them; on the other hand, the game program—the computer layer—also must follow the same rules, in order to act and/or react to the players; both layers cooperate to sustain the order of the game. How can a game, a computer, understand and follow rules like the human players? The solution is to translate the rules, originally created in human language, to a computer language—a numerical code—that computers can understand; this translation can go in the opposite direction as well, in order to explain to players why the game world works the way it does. Thus, the order presented in an MMOG results from the combination of the human-language layer and computer-language layer. This hybrid order in MMOGs signifies “a blend of human and computer meanings, of traditional ways in which human culture modeled the world and the computer’s own means of representing it” (Manovich 46)—the merging of traditional human culture and newly-developed computer culture.

At this point, it is clear how the MMOG generally meets Huizinga’s definition of

play, and at the same time refreshes it with new meaning. The reason why MMOGs instill Huizinga's definition of play with renewed meaning is because they exhibit unique characteristics endowed by computer technology which will be discussed in detail later: inter-action, the representational correspondence between player action and avatar action, and the interrelationship between numerical codes and 3-D explorable space. Although the Huizinga's original characteristics of play have been modified in the case of playing MMOGs, still the primary idea of Huizinga—the interrelationship between *play* and *culture*—remains, more strongly than ever, in MMOGs. In the following section, we will discuss in detail the three unique features of MMOGs and how they connect to the larger realms of society and culture.

The Unique Characteristics of MMOGs, and the Gaming Dynamics and Aesthetics they Engender

The MDA Approach to Understanding Games

Following the theme of this paper, how play connects to the evolution of culture, I found that Marc LeBlanc's MDA approach is helpful to bridge the two ideas—play and culture—which at first seem unconnected, but in fact are tightly attached to one another.

In order to understand and analyze more deeply the nature of games, Marc LeBlanc

proposes the MDA approach, where MDA stands for Mechanics, Dynamics, and Aesthetics. The basic idea of this approach is that the *dynamics* of a game emerge from the *mechanics* of it, and that the dynamics thereafter evoke the *aesthetics* that emerge from the game. The linkage of MDA can be diagrammed as follows:



LeBlanc describes these three distinct aspects of games as follows:

Mechanics are “the core structural components of the game, at the level of data representation and algorithms” (LeBlanc et al.), including the rules of the game.

Dynamics are the ways in which the mechanics interact with the actions of the player—the ways in which the players play with the rules.

Aesthetics are the “emotional responses evoked in the player, when she interacts with the game system” (LeBlanc et al.), and the overall gameplay experience for the player. This is the level on which a game can impact culture.

In golf, for instance, the apparatus of the game includes small white balls, clubs, small holes, and a large play field with sand traps and water hazards; the goal of the game is to use the clubs to send the balls into the holes in accordance with the rules of the game. The equipment and the rule set are both on the level of *mechanics*. In the process of playing the game, players can be found scattered sparsely over the large play field,

waving their clubs, walking to the spots where their balls dropped, and endeavoring to direct their route toward the target holes; this is the level of *dynamics*. Finally, players tend to ask their friends to play with them, so that they will have companionship during the long process of getting the small balls into the target holes and through the large, sparse play field. Moreover, players become inclined to compete with each other to test or exhibit their skill at hitting the balls into the holes accurately. As a result of this, golf becomes a social and competitive activity; this is the *aesthetic* level.

The MDA approach is helpful not only to examine the three different aspects of games, but also to bridge the gaps among them and clarify the causality that connects them together. Building on this basic structure of the MDA approach, I would like to propose a revised conception of the MDA, which moves to a broader level. In this conception, the mechanics represents the mechanically formal features of games; the dynamics represents the gameplay experience that emerges from the formal features; and the aesthetics represents the impact the gaming experience has on society and/or culture.

In the next subsection, the three core mechanical features of massively multiplayer online games will be discussed—inter-action, the representational correspondence between player action and avatar action, and the interrelationship between numerical codes and 3-D explorable space. Our exploration of these features (mechanics) will then

be extended to the gaming experience derived from them (dynamics). From here, we can move onto the social and cultural changes that come as a result of the gaming experience (aesthetics). These three levels of games, rather than being clearly distinct from each other, actually overlap and interweave together, forming an integrated understanding of games.

The Unique Characteristics of the MMOG

1. Inter-action

Before we step into the MMOG, let's first examine its precursor—single player video games, which did not yet involve multiple players, and which developed a basic framework for how digital games construct the progression of play. The essential feature that distinguishes digital games from other media, including their brothers, non-digital games, is that digital games truly realize the interaction between the audience and the media; the structure of digital gaming is composed of *actions* made by both the player and the game software. Galloway begins his study of video games with the claim that “if photographs are images, and films are moving images, then *video games* are *actions*” because they require “the active participation of players and machines” (Galloway 1). He further explains that “both the game software and the player work together in a cybernetic

relationship to affect the various actions of the video game in its entirety” (Galloway 2).

Accordingly, we can conclude that digital games have two essential components—*game action* and *player action*. Player action refers to the commands that the player inputs through the control interface to the game software; game action refers to the output of the game software, either in response to the player’s input or independently, running through the pre-programmed algorithm of the game software.

Recently, with the emergence of new computer technologies, particularly the internet, single player video games have evolved into massively multiplayer online games. In accordance with this change, the basic gaming process, which in single player games is constructed by the game software and the player, is in multiplayer games interfered with by the inputs of *other* players in the game. Therefore, from the perspective of any one player, whom we will call simply the player, the components of MMOGs become *game action*, *the action of the player*, and *the action of other players*. The simplest instance of this is when the game ends not because you, the player, did something wrong, or the game software performed a lethal action on you, but because a third party—other player(s)—killed you. This game-over instance is a bit negative, but actually the interactions between players in MMOGs are usually positive acts of cooperation, acting with and/or against the game software to forward the movement of the gaming process.

An excellent example of this type of cooperative interaction is the five-player dungeon group in *World of Warcraft*, which is one of the most popular MMORPGs (massively multiplayer online role-playing games, a subcategory of MMOGs) in the world as of December 2005 (Wikipedia). Before examining the five-player dungeon group, I will first introduce the interactions that each player has with the game, as a base from which to understand how gaming movement is constructed by an interrelationship of actions—inter-actions.

In *World of Warcraft*, the game algorithm is such that the in-game mobs (*Warcraft* slang for monsters) come in two types—those with yellow-colored names, the passive type, which will not attack you unless you attack them first, and those with red-colored names, the active type, which will attack you if you walk within their area of eyesight. Therefore, when a player rambles through an area of yellow-named mobs, no battle will be provoked if she decides not to attack any of the mobs (player action); if she does not attack them, they remain in a peaceful state (game action). On the other hand, when a player walks into an area of red-named mobs, the situation is more complicated. The player can choose to take a circuitous route to avoid being seen by the mobs (player action), so that the mobs will not attack her (game action), maintaining peace. However, the player can also choose to take a direct route, not afraid of letting the mobs see her

(player action); in this case, the mobs will accordingly run forward to attack her (game action), and a battle results. The movement of the game, be it a peaceful ramble or a violent battle, is constructed by an inter-action of the player's actions, determined by her choices, and the game's actions, determined by its algorithm.

When only one player is present, the battle process is simple: you attack the mob and the mob attacks you back. But, in a group of players in which everyone is inflicting damage on the mob, how does the mob decide whom to attack? In such cases, the game algorithm tells the mob to attack the player with the highest calculated *threat level*—the one who is the biggest threat to the mob. According to this predictable game action, players contrive a common strategy to use in difficult dungeon battles, which involve mobs that are so strong that each one requires five players working together to kill it. The strategy here is to divide the players in the 5-player group into three types, each of which has a distinct job—the *tank*, who typically has the best equipment to protect herself, because her job is to enhance her threat level and draw the attacks of the mob away from other players; the *DPS*, which stands for damage per second, and here refers to the player whose job is to inflict damage on the monster, yet maintain a threat level lower than the tank so that the mob will not attack her; and the *healer*, the player who has healing skills to heal the poor tank who must bear the brunt of the mob's attack, as well as offensive

spells to cast occasionally to damage the mob.



Figure 1: World of Warcraft dungeon groups

This example of a dungeon battle shows clearly that the gaming process of MMOGs is composed of three actions—game action, the action of the player, and the action of other players; each of the three actions is indispensable to the development of the gaming progression and the gaming experience. A change in any of the three central actions will change the whole gaming context, and the development of the gaming scenario will change accordingly. For instance, if the mob's attacking action does not follow the standard *threat level* algorithm, and/or any of the players does not perform her job

properly (for instance, a tank fails to draw all of the mob attacks to herself, a DPS draws the mob to herself by mistake, or a healer cannot save a tank from death), then the course of battle in the dungeon will grow confused, no longer organized into clear, scripted jobs. Moreover, players will then develop a new and different strategy, and a new course of gaming will develop as a result of the alteration that occurred in one of the three forms of action.

Reflecting upon the Mechanic-Dynamic-Aesthetic framework, the dynamics—the gaming experience—derived from this mechanic of inter-action results in a central feature of MMOGs: the fact that most gaming time is spent with other players, since many of the game tasks require cooperation among players. Moreover, the essence of the game can only be discovered and experienced while working with other players, since solo work can rarely accomplish the most significant goals in MMOGs. In single player video games, the player interacts only with the machine, the pre-designed algorithm, whose actions are limited. In massively multiplayer online games, the player must interact with other players as well—other real humans, whose actions are diverse and improvisatorially lifelike. Accordingly, compared to non-digital games (which do not typically include significant game actions) and single player video games (which do not include other players' actions), MMOGs offer greater unpredictability and variety in the

gaming experience. As a result, given a choice between playing with a monotonous machine or playing with intelligent and mercurial humans, for most players there's no contest: a game that includes other humans is more capable of absorbing a player deeply into its play world.

Play Community (aesthetics on the social level)

Furthermore, because of the cooperation between players that develops in MMOGs, which responds to the inter-action mechanic of the game design, an intimate fellowship tends to form among players. Just as Huizinga describes in his explanation of the formation of social groupings, one of the characteristics of play he identifies, the fellowship among players tends to be permanent, extending outward from the game world; moreover, the fellowship formed in MMOGs may be firmer than that in some other forms of social grouping. For instance, when I asked one player of *World of Warcraft* how he feels about fellow players, he stated that "umm... actually I feel I'm more close to the buddies in game than my classmates." Another player recounted, "Sashimi [a player's in-game name] said if I come to New York, he'll treat me dinner... hehe...." Clearly, these in-game buddies who have been sharing weal and woe through numerous incidents in the online world have formed a fellowship stronger than they have with their everyday acquaintances, even though the former group is in the game and the latter is in the earth

world. Furthermore, the fellowship formed in the online game world has extended into the offline world, and become part of the players' life experience. In terms of the social fellowship between players, the online game world and the offline earth world have become parallel to each other, occupying equal importance to the player, and hence both worlds contribute to the composition of the player's social experience and identity in her life. Therefore, both the game world and the earth world merge together to form the player's *real life* social experience; the only difference between the two worlds is that the former world is online and the latter is offline, though the contributions from both are substantial. This social mergence of the game world and the earth world constitutes the aesthetics evoked by the inter-action feature of MMOGs.

Another aspect of in-game fellowship is the formation of *communities*. In most fantasy-based MMORPGs, a mechanism is implemented for players to form *guilds*—groups of players who work together as a team, or as a family. Since, as demonstrated by the example of the 5-player dungeon group, the gaming in MMOGs usually requires collaboration among players, the formation of guilds is quite practical; it is easier for the player who is in a guild to acquire other players to group with in necessary occasions. Moreover, guilds provide a perfect means of dividing labor, sharing personal experience, and circulating information, all of which are forms of cooperation. It

is also interesting to notice that while the main theme of all guilds is the same—cooperation—different guilds have distinct styles, just as different institutions do in the off-line world. For example, the guild I joined in *World of Warcraft*, called *Light of Adytum*, feels like a big family, in which all members are friends, or friends of friends, or in some cases actual family members and relatives. Members of this guild do not mind if you are just a beginner at the game, and in fact they are enthusiastic to guide and assist you. They have designed a policy, for instance, which states that, to facilitate the beginner's leveling up (gaining higher levels of experience), all "newbie" (beginner) members can apply for a "newbie 14-slot bag" once they attain level 10 or higher. Similarly, after reaching level 40, members can apply for a mount fee (the charge for purchasing an animal to ride on), and after level 50, they can apply for a BoE blue outfit. Conversely, another guild, *In Excelsis*, focuses on the contributions it expects each of its members to make to the guild, rather than focusing on helping each other. Corresponding to this emphasis, the guild has published strict recruiting requirements, declaring that they only want players who have clocked many hours in the game, are "thick skinned", are able to complete things solo, and so on³. In successful MMOGs, guilds become critical to all types of players. In her work *Power Gamers Just Want to Have Fun? Instrumental*

³ <http://www.ieguild.com/forums/viewtopic.php?t=2582> (Accessed January 3, 2006).

Play in a MMOG, T. L. Taylor indicates that even power gamers in *EverQuest*, who focus primarily on self-improvement and self-achievement (their own progress and leveling up), also endeavor to manage their interactions with other players, since they know that solo work does not lead to success in MMOGs.

Cyborg Consciousness (aesthetics on the cultural level)

Another broad aspect of aesthetics that arises from the mechanic feature of inter-action is the reorganization of players' structures of thought. Reflecting the fact that the computer gaming process is composed of both the players' actions and the game's actions, in order to contrive a strategy to win the game, players must understand the operating logic of the game software and further incorporate the game algorithm into their own thought structures. Friedman presents the way in which computer games have implanted a *cyborg consciousness* in their players:

The way computer games teach structures of thought—the way they reorganize perception—is by getting you to internalize the logic of the program. To win, you can't just do whatever you want. You have to figure out what will work within the rules of the game. You must learn to predict the consequence of each move, and anticipate the computer's response. Eventually, your decisions become intuitive, as

smooth and rapid-fire as the computer's own machinations (Friedman).

In this way, a computer game installs its own logic, its algorithm, in the human mind of a player. Lev Manovich also notes,

As the player proceeds through the game, she gradually discovers the rules that operate in the universe constructed by this game. She learns its hidden logic—in short, its algorithm (Manovich 222).

For instance, in *World of Warcraft*, players discover that the game-controlled mobs choose whom in a five-member group to attack based on the players' *threat levels*, and whether or not each player is within the range of the mob's eyesight. With this knowledge of how the game algorithm works, the group develops a strategy: when approaching the cluster of mobs, the *tank* will try to entice one mob at a time, and enhance her *threat level* as high as possible in order to draw all the attacks from the mob to herself. Although it takes much effort to describe this strategy, it is so common in the game that players develop this strategy spontaneously and naturally, as if by instinct, because each player's structure of thought has come into alignment with the game. The same is true of finer instances of player action: for instance, the selection and rhythm of character actions from moment to moment within the battles themselves; the constant management of the game camera; and even such tasks as the most efficient way to walk down a road.

Furthermore, the player's reorganized structure of thought does not function only when the player is in the game world; this restructuring of logic is persistent, and perhaps permanent, influencing the player's world view even when she is not in the game world. For instance, during the most intense period of my playing of *World of Warcraft*, I once took a walk with a friend in a forest. Every time I spotted a bush or a cluster of plants, the game mechanism ran instantly through my mind: I will collect these plants to increase my profession skill in herbalism⁴, I thought—because the game mechanism of WoW is such that once a player chooses a profession trail, she must continually practice it in order to rise to higher levels in the profession. The logic of the game has deeply affected my world view, influencing what I think and how I think in my daily encounters, even outside the game. In this way, with the implanting of cybernetic machinations into a player's structures of thought, the player becomes a cyborg being, which Donna Haraway identifies as “a cybernetic organism, a hybrid of machine and organism” (Haraway 65). Haraway indicates that a cyborg manifests a breach of the boundary between human and machine. In the same sense, the mind of an MMOG player becomes a hybrid, a cyborg consciousness—containing both human reasoning and the computer algorithm.

⁴ In *World of Warcraft*, there are a total of 12 professions that players can choose from, to improve the abilities of players' avatars and increase the fun of the game. In addition to herbalism, players may choose mining, engineering, tailoring, and other professions appropriate to the game setting (<http://worldofwarcraft.com/misc/features.html>).



Figure 2: Spotting herbs in the wild is a habit that can transfer to the real world.

Moreover, this cyborg consciousness is manifested in terms invented by players. In *The Sims Online*, for instance, “green up” is a commonly-used term which refers to the group of actions, such as eating, sleeping, showering, or using the bathroom, that the avatar needs to perform to enhance her health and status bars and make them green again (signifying that the avatar is in good shape). Another example is in *World of Warcraft*, where chatting players occasionally ask each other, “where do you *hearth* to?”—a sentence that is illogical in the sense of traditional English. However, this is a common usage in *World of Warcraft*, which means “where is your home?” This term is a result of

the in-game mechanism that allows characters to use a “hearthstone” to cast a spell that transports the character home. The invention of new terms and logic is an index for the emergence of a new culture. Just like the invention and pervasion of the prefix “cyber,” which emerged from the growing usage of computer techniques and terms in everyday conversation, the invention of these in-game terms and logic, even though they have not yet spread widely to non-gamers, signifies that a new culture derived from gaming is developing.

2. Representational Correspondence

The game world of an MMOG is a simulated virtual world that exists only in cyberspace, yet the players are situated outside the screen and thus are separated from the cybernetic world. How, then, can a player’s actions be actualized in the in-screen cyber world? This is accomplished through the interface, which enables a representational image on screen that corresponds to the player’s action off-screen, embodying the player in the virtual space. This representational correspondence enabled by the interface equalizes and bridges the disparity between the movements made in the out-screen and in-screen worlds. Stallabras presents this correspondence between the actions of the players and those of the avatars as follows:

Computer games are different from films in that players become actors, and they are different from other games because their actions appear to affect a distinct and autonomous world (Stallabras).

It is the representational correspondence, the connection between the player's interface commands and the avatar's actions, that enables the player to become an active actor who has an effect on the game world.

Furthermore, following from the physical correspondence of actions between the player and her avatar, another two related aspects arise—mental identification and the transference of achievement. The player identifies herself to some degree with the in-game avatar, and she feels that the achievement accomplished in the game by her avatar can be transferred to the out-screen world as an achievement of herself. This process of identification and the transference of achievement is very similar to the sense of identifications fans develop with celebrities. In his work *The Hero as Popular Culture*, Roger Rollin proposes a mental process of how fans' identification with celebrities takes place, which is helpful for understanding the similar experience of MMOG players:

What is important to the celebrity-struck is that they be able, consciously or unconsciously, to “project” qualities which they believe themselves to possess upon the celebrity-figure and/or to “introject” qualities they associate with the celebrity

into their own physical personalities (Rollin 19).

Let's examine the "projection" and "introjection" processes separately. First, a player of MMOGs is similar to a fan of celebrities: both watch another figure, which is not literally themselves, acting on the screen; the figure in the former instance is the avatar on the computer screen, while in the latter instance it is the celebrity on the television or film screen. If simply through watching the figure on the screen the viewer of the television or film is able to "project" her own qualities onto the celebrity figure, then the player of MMOGs has one more good reason to do so with her avatar. Because of the correspondence between the player's action and her avatar's action, it is even more convincing to the player of MMOGs that her personal qualities are shared by the avatar; what the player does in the out-screen world is correspondingly represented by the avatar in the in-screen world. With the support of this representational correspondence, the identification process is able to transcend the mental identification, as experienced by the audience of the celebrity, and become palpable.

Moreover, the "introjection" process described by Rollin supports the notion that players of MMOGs are inclined to feel that the achievements completed by their avatars in the virtual world can be attributed to themselves in the real world. Similar to the "projection" process attained through watching a celebrity talk on a TV show or play a

hero in films, the viewer is also able somehow to introject the qualities associated with the celebrity figure into herself. In the case of MMOGs, the “introjection” process becomes even smoother for the player, due to the direct control and instant correspondence she has with her avatar. The in-game avatar follows the player’s commands and actualizes the player’s wishes in the virtual space, and thus functions as another *self* of the player, which Stallabras in his work refers to as an *alter-ego*. Furthermore, what I want to stress in the case of MMOGs, rather than the qualities (such as beautiful, strong, etc.) of the avatar, is the achievements accomplished by the avatar, which are more often introjected into the players as their own achievements. While the avatar is fighting in life-and-death combat (e.g. slashing mobs or shooting at enemies), the player is merely tapping the keyboard or clicking the mouse; nonetheless, when the mission is accomplished, the player may experience the same sense of achievement, as if it were literally she who just beat the monster or the enemy. In the same sense, in her essay on the social aspects of virtual worlds, Betsy Book indicates that play characterized by the trying out of professions has become a trend in the MMOGs that particularly simulate real life, such as *There*, *The Sims Online*, and *Coke Studios*. Book points out,

Job-related role play is particularly popular among children and teens, who constantly use social virtual worlds as experimental playgrounds to try out various

adult roles in a 21st century version of “what do you want to be when you grow up?”

(Book 7).

The way in which professional achievement in the virtual space can be introjected into the player in the off-line world, and further become an index for her future choice of real-world profession, is through the correspondence between the actions of the player and the avatar. The player directly controls what her avatar does in the game world; therefore, the avatar functions as the *alter-ego* of the player in the game, acting as the player intends, and thus naturally the achievements realized by the avatar in the virtual space can be transferred to the physical world and guide the player’s future profession choices.

Finally, what makes the achievements in MMOGs different from those in single player computer games is the *publicity* in the MMOG. Nearly every computer game possesses the mechanic feature of corresponding actions between the player and the avatar, and the player can always acquire a sense of achievement from what her avatar accomplishes in the game. However, in single player computer games, an achievement has no audience to recognize it. Without publicity, an achievement is like Rollin’s description of an act of heroism: “the sound made by the tree that falls in the empty forest” (Rollin 14). This problem is solved in MMOGs, since they are *massively*

multiplayer games, which bring in a vast amount of audience and can function as a public platform. The achievements in MMOGs, rather than being private, are publicly acknowledged by other players. Moreover, with the public acknowledgement and recognition, to accomplish an achievement becomes more meaningful and appealing for the players; this is one of the reasons why MMOG players are so absorbed into the games. When I asked one heavy player of *World of Warcraft* why he has spent so many hours in the game world—and I know he has spent many hours there, because every time I log in, he is there—he replied, “I have goals in the game.... The goal for the warrior [one of his characters] is to get number 1 at the kill ranking.... It’s difficult, so far only 3 or 4 people in our server have gotten it... and if you’re not playing, then your ranking will drop.... I’m now among the foremost 10 rankings.” The kill ranking that the player mentions is the “Honor System Rankings” of *World of Warcraft*, which are constantly updated and posted on the official website of the game⁵. Here the goals are not private, but public; the achievement is not only that of the player herself, but in ranking relative to other players. Moreover, in *World of Warcraft*, there are a few well-known heroes who are known for having done something magnificent in the game world; and sometimes when such a player logs into the game, an unknown player will notice her and use the game’s

⁵ <http://www.worldofwarcraft.com/pvp/index.html>

“whisper” function to say something to her like, “You’re so great... I admire you....”

These two examples demonstrate that with the recognition and admiration of other players—the audience—at stake, players tend not only to enjoy their achievements that have gained the attention of the public, but, more importantly, to put more effort into accomplishing achievements.

Combining the representational correspondence and the publicity, the secret of why MMOGs are so absorbing and immersive becomes clear. Because of the embodiment produced through the avatar’s corresponding actions, combined with the recognition of other players, the player of an MMOG considers her achievements in the game world as real as those in the off-line world, and consider these achievement a part of her life’s exploits.

Mechanization of body (the aesthetics of representational correspondence)

While it has become a phenomenon that achievements can be transferred from online lives to off-line lives without impediment, as players start believing that achievements in the game world are as real as those in the physical world, one effect results of which we should be cautious: the mechanization of the player’s body. Stallabras indicates,

Computer games force a mechanization of body on their players in which their

movements and the image of their alter ego provide a physical and simulated image of self under capital, subject to fragmentation, reification and the play of allegory. Games demand that the players hone their skills to make the body a machine, forging from the uncoordinated and ignorant body of the acolyte an embodiment of the spirit of the game (Stallabras).

Through the representational correspondence in MMOGs, the player's action can be actualized by her avatar in the virtual world; the avatar acts as the alter-ego of the player, executing the player's intended movement in the virtual world, but, as Stallabras notes, it is a play of allegory—the player and the avatar are actually engaging in different things. As mentioned before, the players are tapping the keyboard or clicking the mouse while the avatars are engaging in life-and-death combat. When the player *mentally* transfers her accomplishments from the in-game world to the off-line world, she has to be wary of the fact that her *physical* engagement is so different from that of her avatar. What the player is dealing with is merely the interface of the operating system, which is a simpler and less variable action than actually becoming versed in fighting.

Becoming conversant with the interface control system is not so difficult, because it is an “unchangeable truth” (Stallabras): the interface system is constant, and all you must do to master it is to adapt your body to it. In addition to becoming acquainted with the

algorithm of games, learning computer games is about a familiarization, and even an adaptation, of the body to the interface system, which is constant as well as arbitrary—the interface system will not adapt itself to you, instead you must adapt your body to it. As a result, playing computer games forces a mechanization of the player’s body: “a particular form of action on the player, of rhythm, timing and reaction” (Stallabras). Furthermore, in MMOGs, with the enjoyment of the admiration of other players, the player has an even greater incentive to attain in-game achievements, which encourages her to train herself more thoroughly in the interface control system, and ultimately leads to a deeper mechanization of her body. With this adaptation of a player’s body to the interface system, players have gradually become a “bio-mechanical being” (Stallabras).

Although some game manufacturers have attempted to develop more “intuitively-oriented” controllers, still, no matter how intuitively the mechanical device is designed, it is nevertheless a machine that extends from the human body; it is not part of the body, as it does not perform a function of the body. For instance, the promising new gaming console being designed by Nintendo—*Revolution*—is distinguished by its especially intuitive controller. With this unique controller, which responds to free motion, the player can use the controller as virtually any tool called for in the scenario of a game, such as a tennis racket, a conductor’s baton, or a gun; the player can move her body

naturally, as if she really were engaging in these activities. However, the texture provided by the controller is different from the real instruments, and doesn't provide feedback: the controller cannot provide the delicate feeling of a pebble hitting the tennis racket, or even the recoil of shooting a gun. Therefore, a mechanization of the body appears inevitable if you are controlling a machine as an extension of your body.

The Nintendo *Revolution* Controller



Figure 3



Figure 4



Figure 5



Figure 6

Integrating this mechanization of body with the *cyborg consciousness* discussed in the previous section, it seems that MMOG players have truly become cyborg beings, both mentally and physically. The boundary between human and machine, the physical and the virtual, is breached in terms of both how modern people think and how they act. A cyborg culture has emerged from the MMOG gaming experience.

To sum up, reflecting the MDA framework, the representational correspondence, a mechanic feature of MMOGs, enables the player to embody her actions in the game world, and further engenders two gaming dynamics—the identification with the avatar and the transference of virtual achievements to the physical world. Moreover, with the support of the publicity in MMOGs, players can receive the recognition and admiration of other humans, the fellow players; with the recognition of other humans, the player's in-game achievements stride one big step further from the cybernetic world into the physical world. The aesthetic evoked here is the blend of the game world and the off-line world, which is manifested in the example of profession experimentation and the mechanization of the body. The example of profession experimentation, with virtual achievements playing the role of guidance for profession choices in the physical world, reveals the striking but true finding that not only may the importance of the online and off-line world be equivalent, but the former may in fact surpass the latter. In the case of

the mechanization of body, the breached boundary between the game world and the physical world is demonstrated once again. This time, the mergence is not of mental states, as in profession experimentation and the the cyborg consciousness discussed earlier, but actually in the territory of the physical human body. Both our mental states and our physical movements have been reformed into a cyborg whole.

3. Numerical Codes and 3-D Explorable Space

The third notable mechanical feature of MMOGs is the interrelationship between numerical codes and 3-D explorable space. Before we examine the relationship between these phenomena, let's first look what they are and how they are expressed in MMOGs. First, in his work *The Language of New Media*, Manovich proposes that "when new media objects are created on computers, they originate in numerical form," which is a readable language for computers (Manovich 28). It is the same case with MMOGs: when content is first created in the computer game program, it is created in the form of numerical codes. However, what the players actually see on the computer screen is not a series of codes listed line by line, like an HTML or C code; instead, what is presented to the players is a continuous landscape, a 3-D space simulating a physical environment. The 3-D space is another form, after the numerical codes, that Manovich introduces for

the study of new media; he proposes that today's new media are expressed in two forms—databases and virtual interactive 3-D space. A database is “a collection of documents” which is “used to store any kind of data—from financial records to digital movie clips”; a virtual interactive 3-D space is a navigable space, which is usually “employed in computer games, motion rides, VR [virtual reality]” (Manovich 214). Moreover, Manovich proposes that these two forms serve two distinct goals: a database aims to provide its users with efficient access to a collection of information, as in *Google*—a search engine; a virtual space aims to psychologically immerse its users into an imaginary world, as in computer games. Corresponding to the two distinct goals, MMOGs belong with the latter, expressing their form in 3-D navigable space. However, if these two forms are closely examined in MMOGs, it becomes clear that what immerses the players so deeply into the game is not only the 3-D navigable space, but also the numerical codes.

Therefore, I would like to propose a new form for MMOGs, which incorporates numerical codes and 3-D navigable space. How these two distinct forms merge together, converting into a single new form in MMOGs, can be as simple as the fact that numerical codes are transformed by the game program into a 3-D explorable space. What is perceived by the players while gaming is an immense space, not a series of numerical

values and codes. However, the relationship between codes and explorable space is not always so clear, and sometimes it is quite murky. The numerical codes are not always hidden in their place behind the screen, waiting to be assimilated by the program element that transforms codes into graphic space; instead they occasionally jump onto the screen and mingle with the 3-D graphic space. As a result, while players consider themselves exploring a graphic space, they are actually receiving pieces of the numerical code at the same time. The numerical codes in the MMOGs exist in two ways: mathematical codes of the actual gaming software and the numerical quality of game statistics. The mathematical codes of gaming software is what Manovich describes as the original form of content created by computer programs, and this should stay behind the screen, waiting to be transformed into 3-D space; the numerical quality of game statistics is what remains in the numerical format, without being transformed, and appears together with the 3-D space displayed on the screen. The numerical quality of game statistics is presented in many ways, such as experience points, damage, health, and character level. For instance, when a mob in *World of Warcraft* is killed, a number appears fleetly over its body, indicating how many experience points the player has just gained; at any time, a player may also ask the computer to display the statistics of her character, representing her experience points, level, armor and weapon class, as well as countless other numerical

statistics. In other cases, the data represented is not a number, but an index bar which clearly represents a number. In *The Sims Online*, the avatar's satisfaction status is represented on several index bars, separately indicating *hunger*, *comfort*, *hygiene*, *social*, and so on. Each bar goes from left to right, representing from *low* to *high* the points that the avatar currently possesses in each of these categories; the bar turns red if it falls below the middle, and turns back to green if it rises again. Red bars signify that the avatar is in an awful state, and accordingly the avatar will refuse to do things despite the player's input commands. Therefore, these bars literally control the whole gaming process and experience: players always have to be attentive to the status of the bars, and in-game activities are often interrupted by the constant demand to "green up" the avatars.



Figure 7: Experience points (XP) and character statistics are displayed numerically in *WoW*.



Figure 8: Stat bars, signifying the avatar's state, play a critical role in *The Sims Online*.

With such centrally-displayed numbers and bars, there is no hiding from the player the fact that the game play, despite its complex visuals, consists of nothing more complex than balancing a few numbers; still, the player accepts this, and no attempt is made by the game design to hide it. Since numerical codes are not always hidden but actually presented within the 3-D graphic space in various ways, the player, who is interacting with the world and immersing herself within the 3-D space, has implanted this number system in her mind as well, structuring her perception of the game and extending it to her conception of the world. Therefore, the dynamic—the gaming experience—that arises from the hybrid form of MMOGs includes both the immersion with the 3-D explorable space and the obsession with the numerical quantities presented in the game world.

When I asked a group of *World of Warcraft* players what attracted them to this game, one interviewee responded as follows, indicating the immersion of the 3-D explorable space:

What I enjoy most in [*World of*] *Warcraft* is walking around the world.... I played *Warcraft II* [a single player PC game] before so I know the stories, I know the continents in the world, but I'm still excited to see the continents here because I finally can really go there myself.... I like the realistic world in *Warcraft*... it's like when you design a space of a living room, simply you can just put one table and one couch, but you can also add... umm, a bookshelf, yeah, or a magazine on the table, open, and you can see the content inside... it is what I mean realistic.

This player's answer demonstrates the fact that players enjoy wandering around in a *realistic* game world. What players enjoy is not merely the virtual 3-D world, but the realistic content inside it that they can explore. Similarly, another interviewee also indicated that he enjoys the world design elements that conform to events in the real (off-line) world, such as "the Halloween decoration they did... and earlier a holiday for kids, they also did some special decorations." The special design for Halloween in *World of Warcraft* involved not only some static jack-o-lanterns and other decorations around public places, but also some special devices for players to explore and interact with: when

interacting with the computer-controlled innkeepers, for instance, players had an extra option: “trick or treat.” Here, players would actually receive a random gift, such as candy bars (which increase health and mana points), costumes for the player’s avatar, or costumes wearable only by other members of the player’s group; moreover, big tubs were situated in the inns where players could bob for apples. To conclude, what players are enjoying is not only a realistic world on the visual level, but, more importantly, the subtle design elements that emulate the off-line world, which they can interact with and through which they can obtain a tangible feeling of realism. Both the interactive qualities and the realistic qualities contribute to making the 3-D game world explorable; this is what I mean by a *3-D explorable space* in MMOGs. Due to the yearning of players for an interactive and realistic world, it is imaginable that someday, once technological development permits, the whole apparatus of the earth world will be emulated in, or transferred into, the online virtual world.

Not only does the 3-D explorable space have the capacity to immerse the player, but unexpectedly the numerical codes, which we usually consider inhuman, have the same potency as well. As described above, in MMOGs, the numerical codes are not hidden entirely from the graphic space, but instead are sometimes allowed to mingle with it and penetrate into the gaming experience. One interviewee states that “even though I quit the

game [*World of Warcraft*], I'm still thinking about it.... I'm thinking what I can do next to improve my tailoring skill, then I can make the green level robe to improve my armor, and my intellect will have some extra points too....” What this player remembers and, apparently, misses most about the game is a set of numerical values. The reason why the game absorbs this player so much, even though she is not in the game, is because she has a clear goal; she knows exactly what her goal is in the game—enhancing the points in her tailoring skill, and she knows what the resultant award will be—higher points in armor and intellect, so that she is eager to contrive a plan to achieve the goal. Here, the reason why the goal in the game is so clear is because the goal is specified in concrete numbers. In computer games, states Stallabras, “measured by number, self-improvement is always unambiguous” (Stallabras).

Moreover, in addition to producing concrete goals, numerical codes are transformed into number trading systems, which are a main theme that pervades computer games. Fighting a mob to gain experience to level up to the next level, eating food to fill the health bar, buying weapons to increase attack ability: every one of these actions is transformed into and measured in terms of concrete numbers, and performing these actions is equivalent to trading numbers from one category into another. Stallabras proposes a similar notion:

All digital ‘objects’ encountered in the games are types, and all are ranked on a common arithmetical scale in which every quality is tradable.... Games obsequiously reflect the operation of consumer capital for they are based on exchange, and incessant trading of money, munitions or energy, a shuttling back and forth of goods and blows (Stallabras).

When it comes to massively multiplayer online games, the number trading system has grown from a player versus computer activity to a player versus player activity, and the overall scale of the trading has grown. Players exchange those of their in-game objects that are of good quality (measured by number systems), but not useful to the player’s character (also measured by number systems), trading these objects with other players to obtain items they desire; and this trading serves to facilitate their progression in the game. Since in MMOGs the scale of players is enormous, a systematized trading system has accordingly been developed, both by the players and by the game designers. For instance, *World of Warcraft* has several in-game auction houses; *EverQuest II* has an official auction website for players to make offline trades of in-game items; much illicit trading occurs on *eBay*; and, moreover, some people—in some cases even non-gamers—exploit the high value of in-game items and start a sweatshop of “gold farmers” to generate items to sell for real-world profits. Moreover, as reported in *Computer Gaming Magazine*, “Last

year alone, this newfound industry grossed roughly \$500 million according to Bob Kiblinger of UO Treasures.” It is amazing to consider that the engine behind all these systemized and industrialized trading systems is fundamentally the players’ desire to progress in the game world.

In addition to the games discussed above, in which trading in-game items for real-world currency was not a part of the original game design, other MMOGs have been developed that incorporate such trading into their central design. *Second Life*, for instance, which bills itself as “a 3-D digital online world imagined, created, and owned by its residents,” runs its own currency exchange service for the exchange of in-game and off-line money. This whole game is about trading among players: players are endowed with the ability to create any objects they desire to add onto the original game database, such as costumes, equipment, or even in one case a fantasy role-playing game, and players are encouraged and compelled to purchase items from other players, since, other than this, the game provides no goals. Players are granted a small amount of in-game money every month, but this amount is not sufficient to cover the expenses of most players; for this reason, currency exchange from off-line money to in-game money is very frequent, and indeed much currency exchange occurs in the opposite direction as well, for those players who make a profit in the game. For instance, Anshe Chung, the biggest

landowner in *Second Life*, earns approximately \$100,000 income per year from her business in the game. As a result, the economics of the game world and the off-line world have merged with each other. The same is true of games such as *World of Warcraft*, which have very active, albeit forbidden, real-world economies. Furthermore, this merging of economies signifies a labor and production “immigration” from the off-line world into the online virtual world. Since the real-world money is there, so shall be the labor.

Castronova, in his study of virtual economies, proposes a significant notion:

A migration of value creation from Earth economies to virtual economies would appear as a decline in standard measures of economic activity, such as the GDP. Earth economies would seem to be in recessions or depressions...At the same time, there may be substantial reductions in demand for Earth government services (e.g. roads)... (Castronova).

Castronova indicates that the migration of value creation from the earth world to the virtual world necessitates a new fiscal policy which integrates the economies of both worlds. However, due to his prediction of “a reduction in demand for Earth government services” caused by the migration to the virtual world, policies in areas other than economics, such as judicial proceedings and public services, will also require adjustments, in order to acclimatize them to the phenomenon of citizens residing in both the off-line

earth world and the on-line game world.

To sum up, numerical codes and 3-D explorable space are both *mechanical* features of MMOGs. The 3-D explorable space is a virtual space which emulates the apparatus of the earth world, and hence initiates the gaming dynamics of the MMOG—players become immersed in this realistic, explorable world. In addition, the numerical code directly influences the gaming dynamics as well, since it is not transformed entirely into 3-D graphics—some of it is perceived directly by the player. The numerical code is manifested as the numbers that permeate every item and action in the game, and these numbers are transferable from one category to another (such as in the transformation of damage points into experience points). This number-transferral apparatus exemplifies the concept of “trading”: every action a player engages in is essentially about trading—trading numbers from one category to another to further the player’s progression in the game. Moreover, when the trading system incorporates a huge number of players, and every player wishes to obtain certain items to optimize her position, the scale of trading has expanded from the in-game world to the off-line world. This expansion is not only geographical, from in-game trading to auctioning on *eBay* and the gold-farmer industry, but also economical: the exchange between in-game and offline currencies can have repercussions on real-world economies. This expansion of the trading

scale is a part of the *dynamics* engendered by the mechanical feature of the numerical codes, as played out by the players. Furthermore, the migration of labor and production from the off-line earth world to the virtual game world is a part of the *aesthetics* evoked by the expanded trading scale, and it necessitates adjustments to Earth's government policies.

Conclusion

Danny Hillis, the designer of the 10,000-year lifetime clock, suggests that there are five ways to change the world:

Some people change the world by imposing their will on it.

Some people change the world by discovering a truth.

Some people change the world by changing people's minds.

Some people change the world by creating things of great beauty.

Some people change the world by making new tools for change (Hillis 7).

Hillis includes the creation of the Internet as a dramatic example of changing the world by making new tools. MMOGs, games with the mechanical features endowed by technology, are another new tool capable of changing the world. This mode of changing the world, by creating new tools to change it, may be the most powerful of the five modes,

since it also motivates the changing of people's minds and the imposition of one's will on others. In MMOGs, the player's mind has changed when she starts accepting the numerical mode of how the game judges the world; the player's will has also been altered when the game algorithm imposes its structure of thought on her.

Moreover, similar to Huizinga's notion that play is a "creative force," Jacques Derrida proposes that play is "the movement of *supplementarity*" (Derrida 289), during which substitutions of elements constantly occur, and during which new structures are generated. The act of playing MMOGs is therefore a combination of the creative force capable of generating new structures, and the new tool capable of changing the world. As a result, there is no doubt that a new social and cultural structure is being generated by the act of *playing MMOGs*.

In the new structure generated by MMOGs, our lives are composed by the interweaving of experiences from the online virtual world and the off-line earth world, on levels of social intercourse, goal achievement, and economics. Furthermore, not only do our exterior experiences reflect a mingling of the virtual and the physical, but the consciousness of our mind and the movement of our body are altered by the collision of the virtual and earthly world. The logic structure and the movement rhythm of computer simulation have affected the way we perceive the world, the way we act on the world, and

ultimately the way we construct our existence in the world.

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Figure Sources

Figure 1: <http://runolfr.blogspot.com/2005/10/wow-return-to-deadmines.html>

Figure 2: personal screenshot from *World of Warcraft*.

Figure 3:

<http://forum.hardware.fr/hardwarefr/JeuxVideo/A-propos-de-la-N5-ou-Nintendo-Revolution--sujet-70631-1.htm>

Figure 4: http://media.cube.ign.com/articles/651/651334/vids_1.html

Figure 5: <http://videogames.3yen.com/2005-09-19/nintendo-revolution-trailer/>

Figure 6:

<http://forum.hardware.fr/hardwarefr/JeuxVideo/A-propos-de-la-N5-ou-Nintendo-Revolution--sujet-70631-1.htm>

Figure 7: personal screenshot from *World of Warcraft*.

Figure 8: <http://www.virtualworldsreview.com/thesimonline/gallery01.shtml>