Working the System: Economic Models for Video Game Narrative and Play

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Introduction

Nintendo's *Super Mario Brothers* (1985) places the player in the role of a character named Mario who fights evil creatures to rescue a princess. While the premise seems to focus on the player fighting evil creatures, the developers placed a value on everything in the world, including the evil creatures and the method of defeating those creatures (as with the "turtle dance" maneuver where the player bounces turtles-enemies back and forth into an object—a single bounce will kill the turtle and additional bounces reward the player with additional points and lives). The player's job is to manage these values, working at fighting and jumping to earn extra lives, power-ups, and warps in order to win. Because the game's end goal results directly from game-play dynamics that require the player to both explore and fight in order to earn items that are then exchanged for additional game-play, game-play becomes a metaphoric extension of working for wages. In this way, the basic game-play dynamics mirror an economic system of exchange, where game-play is exchanged for items that extend or improve that play. Additionally, because video games focus on replay, games using an economic system as the basis of game-play require that the system inherently create a surplus for use in replay. In doing so, games like *Super Mario Brothers* naturalize players to capitalistic labor processes, including the acceptance of exchange value as real value, commodity fetishism, and the alienation of labor. Thus, the game industry and game design itself often follows an inherent capitalistic system. While industries are expected to follow capitalistic systems to earn higher revenue, the fact that the actual design of computer games recapitulates and emulates that system indicates the entrenchment of capitalistic concepts and their relationship to game design.

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Video games represent capitalistic economic structures in several ways. The most obvious of these is the explicit use of capitalistic societies within the narrativized game worlds, as with games like *Railroad Tycoon II* (2000) where the players purchase objects and work within a game world that is explicitly capitalistic. Games also use capitalism as a metaphor underlying game-play by providing clear benchmarks for game 'progress' that are directly associated with numerical accumulation through game activity or 'work.' Because video games rely heavily on the ability of the player to accomplish certain goals in order to earn further play and replay, game-play often becomes work that is used to earn further or changed game-play. Capitalism in relation to games means a system of exchange values that relies on the creation of surplus value, surplus value that must in turn be reinvested into that system of exchange through replay. Karl Marx states, "But capital has one single life impulse, the tendency to create value and surplus-value" (qtd. in Tucker 363). Economic structures are presented through the in-game accumulation of goods—often in the form of gold coins, power-ups, or points—which represent the player's ability to best succeed at the game, or to play at the game as a form of work. In turn, players reinvest these additional bonuses or skills to earn additional play—in the form of additional areas, skills, or lives. To some degree, video games use capitalistic systems as an outgrowth from early games that relied on sports metaphors for game-play, where game-play equaled points and rankings. Later games reinterpreted points to be payments for the value as accumulated through the player's labor in the game world—value that could then be reinvested to earn more value in terms of game-play. However, current games tend to use points not as an end in themselves, but as a method of currency towards further game-play and game success. Game-play thus becomes a system of work whereby players play to earn additional play time or components. These components can be in the form of items for the game characters like weapons or armor, or they can be in the expansion of the game space where the player earns the ability to play additional game world levels.

While the capitalistic economic structure proves an easy metaphor for game design, designers are frequently displeased with their own treatment by this structure because designers often do not receive credit for their work in designing the games, and designers are generally restricted in their game design choices by the limitations of attempting to create primarily popular games. As game developer Damon Brown notes "We are in a tough, thankless field[...] Your hard work can become obsolete as the next big thing comes from a major company – a company with an actual budget, mind you" (Section IX, para 5). In creating games that emulate the systems that restrict their own work, game designers further reproduce that system by providing players with concrete examples of how capitalism succeeds narratively and by providing that system as a foundational structure in fictional worlds, thus reinforcing its use and validity. This article traces the use of capitalistic eco-

nomic structures in video games, both as economies that exist within game narratives and as underlying metaphors for game-play, in order to argue that many video games teach and reinforce capitalistic world views, even to the detriment of the game designers' goals.

Economics of Game-play

In *The German Ideology*, Marx and Engels discuss how capitalism itself is imbued in individual components of capitalist societies like family structures, sexuality, and individual consciousness. In addition to these, capitalism is also encoded in game design, even for games that possess no explicit economic structure. However, many video game designers view game economics only as the explicit creation of virtual economies within video games. In *Chris Crawford on Game Design*, Crawford defines economic issues in games directly in relation to conflict, stating:

> A rarer medium of conflict is the economic arena. If you can't punch your adversary, insult him, or discredit him, perhaps you can financially ruin him. This is of course the primary form of conflict in business environments, but it can also extend to other arenas. (59)

Many games are played through explicit and narrativized economic conflict. In these games, economic conflicts are placed within the game narratives while also serving as the explicit underlying structure for game-play, as with the *Tycoon* games (i.e. *Railroad Tycoon II* and *Zoo Tycoon*, released in 2001), *The SIMS* (2000), and *Civilization III* (2001). Other games use only narrativized economies, but do not explicitly use economic structures for game-play. These include the economies in *Everquest* (1999) and the buying and selling of goods in games like *Diablo II* (2001)[1]. While these games explicitly use economics, the underlying game-play structures are also based in capitalistic structures where game-play is rewarded with items that can then be reinvested to continue game-play.

By using capitalism as the structure for game-play, game developers and designers are able to present players with an easy metaphor for game-play and game progression, as well as providing themselves with an easy metaphor for design. Games using capitalism as an underlying metaphor offer items as goods earned through game-play. The games then rely on the exchange value of the earned goods and their reinvestment to earn later game-play, or for use in later game-play. In doing so, the designers reinforce capitalism as an inclusive metaphor, or as a meta-trope. Capitalism operates as a metaphor for game-play because most games are structured modularly, with each unit requiring further items-as-abilities or points-as-progress to complete. Thus, the modularization does not make the games capitalistic; instead the exchange of labor for progression and expansion does. The first *Super Mario Brothers*

provides a simplified version of this structure with progress being divided into game levels, and then being determined by movement towards the end of each level. Yet even within a simple example like *Super Mario Brothers* the capitalistic structuring comes into play with the gold coins that the player can 'earn' by exploring the level and the points that the player can 'earn' by defeating enemies. If these points and coins were simply abstracted points, then the game would function with an underlying sport-game metaphor where points were granted for accomplishment. Instead, the points and coins in *Super Mario Brothers* have direct value within the game because they have exchange value, being used to purchase extra lives; thus allowing the player to continue progressing overall if successful enough in earning additional funds, and thus extra lives.

Compared to most current games, *Super Mario Brothers* is an extremely limited example, but new games in the series continue in the same vein. For instance, in *Luigi's Mansion* (2001), the player must fight ghosts and find hidden money. At the end of the game, the player buys a house with the money earned from fighting the ghosts and exploring. Because winning is determined by the player's ability to perform acts that earn money with actual value within the game world, game-play becomes a metaphor for work. Similarly, in *Maximo*, players earn gold coins for use in purchasing items, but the player is also presented with a percentile evaluation of completion for the areas explored and conquered in each game level. If the gold in *Maximo*, *Super Mario Brothers*, or *Luigi's Mansion* only served to represent the work done in the game, it would act identically to the percentage given at the end of each level in *Maximo*. As Marx notes, products remain commodities when they are produced for the purpose of exchange (*Capital*, Vol., Ch. 1). Instead, the gold both expresses the amount of work done per level and retains a value for exchange. The percentile assessment after each level in *Maximo* shows players that they can complete a level and continue on to other levels even with low completion rates. Despite this, players are still shown the percentage, which shows players an explicit statistic by which to evaluate level completion and the effectiveness of their labor within that level—the percentage even offers a break down of enemies killed and secrets found, to present the final percentage for overall completion. This quantification of completion explicitly informs the player of the amount of exploration, as work, completed for that level. In doing so, the quantification makes the level divisible into discrete units or types of work done—secrets found, enemies defeated, and so on. Further, because the secrets and enemies completed generally yield gold, those increments are directly connected with gold-as-commodity that can be spent to purchase additional items, which in turn can be used to earn additional lives, gold, and items.

In games with greater narrative and character development options like *Diablo II*, players earn gold and experience for fighting, gold that can be used to purchase goods from local vendors in a narrativized economy and experience that can be used to

increase character skills. While the gold in *Diablo II* is clearly situated within a narrativized and explicit economy, the experience for increased levels and skills acts as a metaphorical capitalist system that repays work with explicit rewards, rewards that allow the player to earn at a faster rate, and to then reinvest in order to earn at an even faster rate. This playing for experience points to gain levels, to then earn at faster rates has been termed a level treadmill because it exists as a long-term—or in massively-multiplayer online role-playing games (MMORPGS), as a near-infinite—method for game-play and game progression. While these are treadmills in the sense of a continued return of similar game-play, these treadmills operate using the familiar metaphor of capitalism. Just as when PDA interface designers work hard to make their devices "intuitive" by making these new technologies look as familiar and comfortable as an old pocket notebook so that they will be more readily adopted and used, so too do game designers rely on the metaphor of capitalism to facilitate the perceived transparency of game-play.

The Invisible Economy

The implicit use of capitalism as a metaphor for game-play stems from many game design needs. These include the needs of game designers, which are dictated by short game production cycles (often under a year or less) and by player learning curves, which necessitate that designers use metaphors that are familiar to the players. Further complicating these are some of the issues cited in the IGDA "Quality of Life White Paper," which are and the relative inexperience of many game designers and the high turnover rate:

> 74.4% of respondents have been in the industry for 8 years or less, with 2-5 years being the most common response[...] On the other hand, the fact that **fewer than one lead developer in 10 has over ten years of experience** indicates that we lose a depressingly high proportion of our senior people to rival industries. (15, 16)

These internal problems, combined with design materials that stress transparency, often lead designers to rely on existing game designs and on readily accessible metaphors like capitalism. Capitalism often operates as a metatrope in games because designers need a way to reward players for successful play in a manner that encourages players to reinvest that play back into the game to progress further, and in manner that does so without much explication.

Capitalism is often implemented as a transparent underlying metaphor because of the demands on game design and the new media teachings on the benefits of transparency. Game design diverges from the design of other new media elements, but much of game design is still grounded new media design. Many of the fundamentals of new media design follow from research done on human-computer interaction like Donald Norman's *The Invisible*

Computer. In it, Norman argues that computing should be transparent and immediately accessible to the user. Similarly, theorist and game designer Brenda Laurel argues that new media works should use Norman's articulation of direct manipulation where, "Direct manipulation interfaces employ a psychologist's knowledge of how people relate to objects in the real world in the belief that people can carry that knowledge across to the manipulation of virtual objects" (7-8). Game design does not aim for ultimate transparency, but most game design does aim to be easily accessible for the user by relying on existing game control schemas and existing game design metaphors, as with fighting games that allow players to choice the button configuration to match that of other games from the same genre. Games also use existing game designs and metaphors for design to make the game more readily accessible for players, as with the similar functionality found in many real-time strategy games. *Game Developer* Editor Jamil Moledina notes, "While creativity is perceived to be down, it's more prevalent that innovation is deliberately stifled in favor of the sure-thing rehash" (4). Similarly, Stuart Roch states, "It's no breakthough statement to say that the game industry has been remarkable lately for being unremarkable: derivative games, derivative sequels, and derivative licensed properties" (16). One of the more prominent metaphors used and repeated in games is capitalism, which can be readily implemented as a metaphor for game-play and as an aspect within the game narrative.

Game design itself is based on economic metaphors of exchange, but they are not necessarily tied to capitalism. In *Game Architecture and Design*, Andrew Rollings and Dave Morris note that games are designed to make game-play a dynamic area in which many options combine to create different, yet viable options. In terms of game design, they also note that players are constantly presented with "costs and trade-offs. A cost doesn't have to mean money or victory points; it can be simply the things I had to succeed at before I could get to the options I'm facing next" (51). Rollings and Morris put game-play within an abstracted economic system of exchange, but not one that is explicitly capitalist. Similarly in *The Language of New Media*, Lev Manovich abstracts elements of all new media and defines several key elements, including modular structures. As applied to video games, modular structures can include interface, level design, and the algorithms or metaphors by which the works operate. While Rollings and Morris, and Manovich do not use capitalism within their examples, video game design often imagines economic structures with a capitalist framework. While capitalism proves a viable metaphor for game design, it also proves a limiting metaphor both for game design and for the game designers.

Capitalism itself limits game designers because game design is often dictated by the market. Marketing demands often confine designers to popular games; often require long work hours due to the expanding market and small workforce; and often limit the credit given to individual designers for their work on video games.

Rollings and Morris note the problems designers face in the gaming industry, even terming game design companies software factories; "With the software factory, no one can say that 'their' team developed the game, because they would have developed only a part of the game" (346). The software factories are constructed to ensure that no one programmer or team can earn credit or royalties for a game. The International Game Developers' (IGDA) "Quality of Life Committee in the Game Industry" found that many designers were dissatisfied with long work hours and with the industry itself, and that the demands of the market and industry even cause game designers to leave the profession. In addition to the immediate day-to-day working concerns are larger industry conditions, like non-compete clauses. The long work hours and restrictive industry conditions are then combined with working demands that restrict game designers to producing 'marketable' games. In "The Zen of the Professional Artist," video game artist Erik Asorson even goes so far as to argue that game artists should aim for a zen-like acceptance of their loss of control over their creations to ease the stress and disappointment that comes from that loss (55-6). As the "Quality of Life in the Game Industry" shows, designers believe that they are being stifled by the same capitalistic framework that they repeatedly use in game design.

The use of capitalism as an underlying metaphor for game design may actually help designers by focusing their work and allowing them to work within the constraints of this metaphor. However, game designers still complain that the industry requires too much time and work, requirements that are created by the capitalistic market. Game designers' use of capitalism shows that capitalism, as a metaphor used in game design, continues in circulation because of its ease of use and because it is transparent. This transparency has allowed capitalism to be used even when alternatives exist that could prove innovative for game design for both game designers and players.

Alternatives

While game design seems to indicate the deeply embedded or even intrinsic nature of economic metaphors for game design, many alternatives are available. Some of the most notable alternatives include works that question the definition of games, like Romain Victor-Pujebet's *Le Livre de Lulu* (1999), as well as more traditional popular video games like *Silent Hill* (1999) and *Resident Evil* (1996). Victor-Pujebet's *Le Livre de Lulu* is more of an interactive or remediated book than a video game; however its playful design and non-incremental reading/playing goals present an internal design not fettered to a capitalist economic model, but one that still allows for play in the same manner as many video games. Like a video game, *Lulu* focuses on the story of one girl as the player plays with the character's actions in the story, the story sequence, and events in the story. Unlike a video game, play in *Lulu* is not bound by a metaphor of exchange for values of play or progression.

As Robert Hughes notes, the power of *Lulu* is in its emphasis on the "subtle interplay between the reader and the characters of the tale" (122). By relying on the interplay between the work and the reader, *Lulu* presents an example of emergent gaming, where the play itself determines the method of that play, as many argue that games, including the acclaimed open world of *Grand Theft Auto 3* (2001), do. Non-traditional games like *Lulu* and emergent games like *GTA3* allow designers and players to work outside of the metaphor of capitalism for design and for play. In addition to these, popular horror games also subvert typical capitalistic design, partially in their subversion of other norms for horrific effect. Because of this, horror games like *Silent Hill* and *Resident Evil* exist under different game-play dynamics than most games, and these changes include changed systems of game-play. In the *Resident Evil* and *Silent Hill* horror systems, players cannot progress in the typical game manner—that of killing enemies and gaining more experience or items in order to become stronger and to kill more enemies. Instead, horror games like these alter the typical gaming metaphors to make players operate within a system where work (running around and killing enemies) does not always grant payment (additional ammunition or items). By subverting the norms of video game-play, emergent, non-traditional, and horror games manage to subvert the often inherent capitalist system that underlies typical game-play.

In addition to different internal metaphors or models for game design are changes in the gaming platforms that affect game design. In "The Wireless Gold Rush," Ben Calica suggests that many of the problems faced by developers in terms of game design and licensing are alleviated when designing games on wireless platforms like cell phones and PDAs because of the manner of play and because of the changes in platform. These changes allow game designers to explore new game designs and metaphors for game design. Further, because games are often seen as bonuses with PDAs and cell phones, the games are not driven by the same market needs as computer and console games. Similarly, alternative markets can encourage alternative metaphors. In *Gender Inclusive Game Design*, game designer Sheri Graner Ray notes that most games are designed with scores and that game advancement is rewarded with higher scores and additional levels. She then argues that most girls do not want to play for scores and are instead interested in playing cooperatively (84-5). While, as she notes, the gendered divide of game-play preferences is questionable, cooperative play can act as an alternative underlying metaphor compared to those that rely more strictly on capitalism for the accumulation and use of value for game-play and game progression. One example of this is *ICO* (2001), a game about a horned boy who must work with a blind girl to escape their imprisonment. *ICO* relies on cooperation as the overarching metaphor by which the game is played. Other games also require cooperation between multiple players or characters in order to progress through the game, and this cooperation can exist as a game element or as the metaphor for game-

play. In most games, cooperation is not the metaphor for game-play, and exists only as an element within the overall metaphor. Occasionally, games are developed using both the cooperative and capitalistic metaphors, as in the *SIMS*, a game that includes a specific economy and ties character happiness to material goods as well as requiring that the game characters play together in order to continue game progression. In all, alternative metaphors for game design and the changing space of game design with new platforms offer further options in game design that can both broaden design, offer designers new freedoms, and can illuminate game studies by revealing assumptions that have been made transparent.

Conclusion

Media theory teaches that video games, as a new medium, will rely on existing metaphors for narrative and interface design. However, the unexamined use of those metaphors often leads video games into redundant and reductive game design for the players and the creators. Bob Stein, founder of Voyager, has made numerous interactive texts and has been a prescient thinker about the implications of new media in any form it may take. Stein notes that new media, particularly the internet, is often viewed as a panacea, but that the new media works often fall in line with the failings of other forms:

> People talk about how clearly these new technologies are being used to develop a world culture that's coming into being. But there's a difference between what is actually coming into being and a truly world culture where somebody making music in Africa has as much currency as somebody signed to a contract with Warner Brothers in the United States...We're not getting that. We're getting one culture and it's basically one that comes out of U.S. culture corporations. (201)

While video games are a new and different media, video games are still in danger of replicating the problems inherent in the culture that creates them, thereby frustrating game designers and creating repetitive games. However, no matter how the games are designed, game design alone does not ultimately dictate how the players play the games. Despite the potential radicality of the player during game-play, the transparency of capitalism as a metaphor embedded in game-play and game design still imbues the games with a capitalistic bent which, if unexamined, only contributes to the problems faced by game designers and to the repetitiveness of game-play for the players. Examining the use of capitalism in video games alone cannot change the problems or implications of its usage, but this usage must first be examined in order to remove the transparency of capitalism as a metaphor and to allow for the possibility of change.

Note

[1]As multiplayer games, both Everquest and Diablo II also have ties to real world economies because their goods have been bought and sold for real-world currency through brokers like eBay. Edward Castronova's "On Virtual Economies" investigates how massively-multiplayer online games create their own economies and how these economies create virtual assets for trade with Earth economies. While Castronova's article focuses on the exchange value between Earthly and virtual economies, many games use capitalist economies as the underlying metaphor for game-play.

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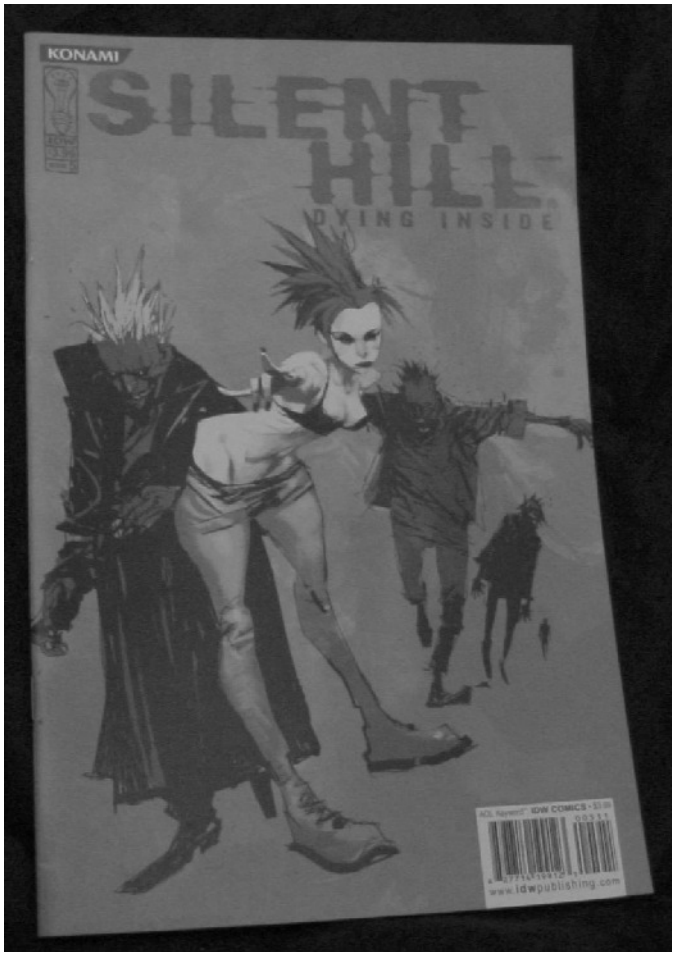
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