# Can Games get Real? A Closer Look at "Documentary" Digital Games

Digital games are commonly celebrated for their realism, but this is typically a reference to their visual verisimilitude rather than an association with something actual. As games begin to push past traditional boundaries and contexts, a new genre, of sorts, has begun to emerge; one which uses real people, places and subjects as its referents. Sometimes called "documentary games," these works attempt to make some tangible connection to the outside world. In doing so, new issues emerge, not only concerning the representation of real subjects, but on the appropriateness of doing so within a form commonly used for entertainment.

But what is a documentary game? The label seems to be applied loosely to any game that makes reference (however tenuously) to "the real world"— games from *Enter the Matrix* (Shiny Entertainment 2003)¹ to *Medal of Honour: Rising Sun* (Electronic Arts 2003)² to *Civilization* (Firaxis 1991). Is there any real relationship between the documentary form, as we know it from lens-based media, and these games? Or is this a case of simple remediation — an attempt to reconstruct a genre in another media form without sufficient regard to the properties of that medium. Does evaluating games through the lens of documentary (so to speak) restrict or understanding, or facilitate new analysis?

<sup>&</sup>lt;sup>1</sup> Suggested by Hanson (135).

<sup>&</sup>lt;sup>2</sup> Suggested by Fullerton.

If they exist at all, documentary games are an emerging genre. As such, in this work we take a speculative approach, starting with documentary theory and creating a model of what games might be documentary games today, and what new documentary games could look like in the future. By examining games in terms of documentary conventions, we investigate whether it is reasonable to call something a documentary game, whether such games expand the role of the genre, and if the title can shed light on the role and reception of these works.

Regardless of whether or not we accept the "documentary game" moniker, select games have been given this title by journalists, critics, researchers, and game developers themselves. In his work on the future of cinema, Matt Hanson proclaims that in exploring real-world events, digital games are "finally going beyond the ability to play battles and create historical re-enactments in wargames, and relate more to the areas of subjective documentary and to biopic" (Hanson 132). Eddo Stern uses the term "documentary video games" (Mirapaul) in describing his own game *Waco Resurrection* (C-Level 2003). Tracy Fullerton calls it "aspirational pre-naming," the wishful adoption of a genre in the hopes that merely naming it will bring it into existence. Clearly, there is public desire to acknowledge and define select digital games as non-fiction, and a certain prestige in doing so — as if developers were challenging the intellectual status quo in contemporary digital game production.

Whether this is a case of wishful thinking or a legitimate attempt to create a frame for reception is still an open issue. On one hand, "documentary" is a term with great cultural currency, and therefore is useful in establishing context and expectation.

Consumers of art and entertainment alike have a developed understanding of the documentary in the "ordinary" sense of the word: documentaries are non-fictional accounts of the world. They can be found in *Life* and *National Geographic*, not *Glamour* and *People*; on the *Discovery* and *History* channels, not ESPN and network broadcast; at IMAX and art theatres, not the local multiplex cinema. However, "documentary" also implies, almost exclusively, the visual grammar of film and photography, a grammar that may not be appropriate for digital games. Carrying the excess baggage of photography and film into digital games is a risky proposition; it provides an excuse not to ask what expression similar to documentary film and photography would be like in games. While labeling games as "documentaries" may establish a frame of reference, it can also obscure the way that games are expressive in different ways. Borrowing the name "documentary" from these historical progressions isn't a substitute for an evolution in the practice of documentary game making.

Film documentary leverages one of the affordances of lens-based media: its transparency. Transparency closes the perceived distance between the subject and the recorded image. Digital media can adopt this core property of documentary film by incorporating film itself into games, but such a strategy is a rudimentary use of the computational medium to be sure. However, digital media have other affordances: notably, the ability to execute processes — to run code. Documentary film can only represent one instance of the subject. As audience members, we have minimal assurances that what we see is the "definitive moment" for documenting, as opposed to an aberration. Digital media can also simulate situations difficult to deconstruct or follow

visually: for example, the assassination of John F. Kennedy. In the controversial example of Traffic's JFK Reloaded (Traffic Games 2004), players assume the role of Lee Harvey Oswald in an attempt to recreate the series of shots fired in the Kennedy assassination. Regardless of the provocative nature of creating a game based on such an emotionally charged subject, the game can make a perfectly legitimate claim to the *reality* of its representation—the simulation at the heart of the game and the criteria by which a player's marksmanship is judged is based on real forensic evidence presented to the Warren Commission. If a player has enough skill and luck, they *can* recreate the event as evidenced by this data. We have to ask—would the proliferation of conspiracy theories<sup>3</sup> surrounding this event have occurred if the primary cultural document for the event was the accurate physics simulation at the heart of JFK Reloaded, rather than the grainy and ambiguous image presented in the Zapruder film? Game documentaries offer the opportunity to explore other avenues of non-fiction representation — and in turn, to reveal how our expectations of recording and documentation can be skewed by the myth of cinematic transparency.

## **Defining Documentary Games**

The most basic question to ask would be, in terms of traditional views of the documentary, can games be reasonably defined as such, or have we merely conveniently hijacked the nearest existing genre? In documentary pioneer John Grierson's early work, documentary is defined as the "creative treatment of actuality" (Grierson 13). Grierson's definition of this then-emerging film genre was quite fluid, and Grierson was inclined to

<sup>&</sup>lt;sup>3</sup> Carl Plantigna notes that only a small percentage of Americans believe the version of the Kennedy assassination presented by the Warren Commission (23).

address these works in terms of *documentary quality* rather than assigning an either/or label. We understand two key points at work in this definition. First, documentary quality is not intrinsic to the raw footage in itself. Rather, documentaries are constructed works, and documentary quality is a product of this construction. Second, documentaries are oriented toward the real instead of the imagined. The completed work is not crafted to produce the effect of drama, comedy, horror, or any other of the traditional genres of film. Such genre conventions may be present in documentary, but they are not primary. Instead, documentary strives for the authentic representation of lived experience. If film explores human experience as we expect, wish, or fear it might be, documentary cuts through the sheen of this fiction and shows us life as it really plays out.

Bill Nichols gives us a more contemporary view of documentary: documentaries adhere to genre conventions, and maintain a certain ethos of production and reception (Nichols, *Introduction to Documentary* 22-40). Nichols's definition relies on both the producer and the consumer of the work, and suggests the way *documentary quality* becomes a social negotiation between multiple defining factors. For example, material conventions (the use of interviews, a hand-held camera, voice-over narration) might be one way for a producer to cue the audience that what they are seeing is in fact a documentary — although such conventions can be subverted or hijacked to create a "documentary feel" in fictional works as well.<sup>4</sup> Documentary makers will also explicitly index works as non-fiction through the film's promotion, as well as implicitly through its dissemination channels, inclusion in documentary festivals etc. The reputation developed

<sup>&</sup>lt;sup>4</sup> One commonly cited example is the use of fake "primary source footage" in Oliver Stone's 1991 film *JFK*.

by filmmakers provides additional clues to the work's authenticity and actuality: usually presumed to be objective and impartial. Deviations from these expectations affect a work's reception as a documentary; for example, the works of Michael Moore are commonly disputed as documentary for reasons of character (specifically, an admitted bias and agenda on Moore's part.) The audience also plays a role in the acceptance of a work as documentary: they approach the work with a primary expectation to be informed, rather than entertained (although both may take place). They also assume that what they see has actually occurred in the material world: there is congruence between what is being seen, and a real-world referent. Part of what establishes this expectation is determined by genre conventions and the assurances/reputation of the producer.

From this preliminary exploration into what makes a film documentary, we can define some points of intersection and translation for documentary games. To bear the name "documentary," games must articulate an actuality. Transparency makes actuality easy to depict in film, but the constructed spaces of digital games complicate matters. Here perception is everything: games need to generate events bearing a plausible relation to reality. This may be a key difference between a game like *Sim City* (Maxis 1989) and a game documenting urban renewal in a declining London borough.

However the type of actuality at work in games might be different from that at work in film. Grierson intended to contrast actuality with expectation; documentary is thus a kind of depth analysis that cuts through the hopeful façade of fiction and exposes the world itself. For example, fiction might depict an idealized version of an unlikely courtship or an underdog's rise to the top of an organization, but documentary would

expose the obstacles keeping a couple together or apart or the corporate power structures that inhibited an outsiders' success. We identify another way to understand actuality: as the set of everything that does happen or could happen, the overall possibility space for real life. Under this understanding, documentary games would strive to demonstrate the constraints that produce actual events, to find the limits of human experience and ask what rules constrain that experience such that it takes place in a certain way. For example, a documentary film about a political uprising might focus on the way events really played out in the streets or on the battlefield, or how they were filtered by the Western news media. But a documentary game about the topic might focus on the way local history and politics colluded over time to produce the conflict in the first place. Documentaries excel in specific instances, but documentary games deal in *real* virtualities, possibility spaces in which multiple instantiations for real world activity can exist.

Alexander Galloway has argued for a revisionist notion of realism in games, which he calls social realism, set in contrast to verisimilitudinous realism. Social realism seems to include, but not limit itself to, documentary expression. In light of the uncertainties of the concept of documentary, we could reasonably reframe the documentary question as an assessment of "documentary quality." This approach does better service to the spirit of Grierson's initial definition, recognizing games as an inherently different medium, but one that can both leverage a frame of reference and remediate lens-based work. For example, a game that simply attempts to create a *realistic* (in the sense of verisimilitudinous) game environment would rank low on a scale of

documentary quality, similar to a fictional film "based on a true story." These works sacrifice what Nichols would call their "informing logic" (Nichols, *Introduction to Documentary* 40) for entertainment value.

In what he called his first principles of documentary, Grierson calls for cinema's observational power to bring forth a new art form, one where subjects "taken from the raw" would give us more of an ability to interpret the modern world. To reframe this call, we must exploit the digital game's potential for exposing the underlying processes of experience can be exploited for greater understanding of said subjects. Grierson notes: "In documentary we deal with the actual, and in one sense with the real. But the really real, if I may use that phrase, is something deeper than that. The only reality which counts in the end is the interpretation which is profound (Grierson 145)." The illusion of photographic material as raw today seems a bit naïve—even within mainstream documentary film. We no longer possess an unwavering faith in the factuality of the photographic image. Now we've starting to see digital games present the capacity to represent new but equally factual realities by laying bare the logic of a core system. What you see in a documentary is not the subject itself, but a representation of the way the subject is constituted, the experiences available and foreclosed to the subject. Even if the end product is presented as non-fictional, the subject in a documentary is nevertheless different from the actual referent being documented.

In film theory, the incongruities of reality versus representation are known as profilmic elements, those parts of reality put before the camera to make their impressions on the viewer. Likewise, afilmic elements are those parts of reality not included in the filmic representation. Film theorist Etienne Souriau oriented the goal of documentary toward the afilmic rather than the profilmic: a documentary presents "people and things that exist in the afilmic reality" (Souriau 7). When the profilmic is further framed as non-fictional, the viewer is further willing to extend indexicality to it — to treat the subject in the doc as a legitimate stand-in for the real thing, despite the fact that the subject is "set up" rather than discovered (profilmic rather than afilmic).

As a flipside to our willingness to question the indexical and iconic claims of film, we are also increasingly willing to extend indexicality to non-filmic media. Like film, simulations can be understood as real — the "real" process extracted from the situation. Fullerton reveals that while computer simulations had previously been restricted in legal proceedings, increased familiarity with the form has lead to a high acceptance rate and an increased use of highly realistic and detailed models. While initially viewed as constructed and prejudicial, these simulations are increasingly viewed as accurate interpretations based on the examination of evidence by forensic experts. She notes:

A perceptual shift is taking place, the ripple effect of which is being seen in this example of courtroom evidence rules. This shift is illustrative of how we may someday embrace the possibility of simulations which not only visually model, but behaviorally model aspects of history so that they may constitute "evidence" by that same "social, semiotic process" that gives us the concept of the documentary image. (Fullerton)

While simulation is increasingly accepted as presenting the actual, its closest filmic counterpart, the re-enactment, is generally looked upon as a degenerate documentary technique — with many important early works (such as the films of Robert Flaherty) all but discredited by accusations of the re-creating or staging of "real" events.<sup>5</sup> However, even the re-enactment has begun to re-emerge in documentary filmmaking (consider reality TV series and films such as Errol Morris' *The Thin Blue Line*), demonstrating how evidentiary value, at least as accepted by the public, is malleable and tends to fall in and out of fashion.

Nichols also defines documentary works through the intent of the producer — a potentially contentious issue in relation to documentary digital games. On one hand, it accommodates games that are self-identified as documentary games. But where exactly is the institutional home for this genre? Even while commercial games claim verisimilitude as a primary goal, seldom do they claim to be "documentary." The self-proclaimed documentary game seems to lie at the fringes of the videogame medium. At the same time, most documentary works also exist as independents. Yet, despite few notable mainstream successes, the documentary film still remains a widely acknowledged genre of film, unlike the documentary game. When games do self-identify as documentary, do they do so to provide insight? Do such games strive to connect players with knowledge or reflection outside of the game itself? Commercial publishers generally do not ascribe such goals to entertainment games, which are generally conceived as artifacts of leisure. Provisionally, the intention to provide an insight in the player seems to be a salient

<sup>&</sup>lt;sup>5</sup> A practice, according to Plantigna, that was not popularly seen as particularly deceptive or inauthentic at the time these works were made (35-36).

feature of the documentary game. Audiences view documentary to learn something new, or to reinforce existing knowledge and perception (they expect Nichols "informing logic"). Informally, we might call this the "a-ha" moment — an instant of insight or confirmation wherein the audience makes a connection with the actuality. This drive to present knowledge clearly differentiates certain works from their entertainment-oriented counterparts. In order for games to present that "a-ha" moment, the player must be able to make and accept the connection between in-game events and an external, documented actuality. They must both recognize and accept the game's documentary quality.

Digital media is hypermediated. Games can contain the same recorded video, photo and audio objects used to construct reality in the film documentary — and in such cases there is little reason to suspect these artifacts would not retain their evidentiary value. The presence of these elements often extends documentary quality to other highly constructed media such as animation, as evidenced by Academy Award winner *Ryan* (2004), which uses audio interviews of famed animator-turned-panhandler Ryan Larkin in conjunction along with highly subjective 3-D animated visual representations. Games like *Brothers in Arms: Road to Hill 30* (Gearbox 2005) present a strong documentary quality through the use of primary source material, although traditional documentary elements are peripheral to the gameplay, presented only as a reward for level completion. In the game, players engage in standard WWII battle play, with the potential to unlock additional material (including letters, maps, and photos) used as reference in the production of the game — the real material used to create the illusion of realism. *Waco* 

<sup>&</sup>lt;sup>6</sup> Bogost has advanced this argument with respect to games and simulations in general (Bogost 2006).

<sup>&</sup>lt;sup>7</sup> Best Short Film, Animated (2005)

Resurrection, in which the player uses incantations to control a battle between Branch Dividian leader David Koresh and the American ATF, also introduces such "primary source" material; in this case, a song produced by David Koresh becomes an eerie soundtrack to the game experience. While the inclusion of such media artifacts should not be the sole consideration in identifying a game as documentary, it is reasonable to say the presence of this material certainly serves to support the documentary quality of these games.

## Forms of the Documentary Digital Game

If we can assert digital games can maintain a sufficient *documentary quality*, what kind of works could we expect to see this genre? Again, we can look to Bill Nichols for forms of cinematic documentary, and find several modes defined: the *expository*, *observational*, *participatory*, *reflexive*, *performative* and *poetic* (Nichols, *Representing Reality* 12-31 passim). Reframing these modes to apply to digital games not only helps define potential growth in the genre, but reveals/reinforces the strengths of each genre. A reinterpreted framework might look as follows:

**Procedural**: Based on Nichol's expository mode, the procedural mode involves the structuring of the subject in a rhetorical frame produced by a defined rule structure (see Bogost 2005). The rules become an authoritarian observer, creating the illusion of freedom while defining the scope of the game's constructed actuality. Game examples include *Under the Siege* (Afkaar Media) and *Under the Ash* (where players take up the Palestinian cause in Israel, in the context of incidents reported in the Palestinian media), and *Escape from Woomera* wherein

players take the role of a detainee in an infamous Australian refugee camp. In the *Siege/Ash* games, the rules define a possibility space that embeds the Palestinian perspective (for example, you can't choose to pursue peace with Israeli forces). Your goals are explicitly to defend Palestinians and Palestinian interests in scenarios documented as real events (such as a massacre by an Israeli extremist in a mosque), but perhaps open to interpretive rulesets. In *Woomera*, your search for assistance in the camp before deportation plays out as a puzzle game — an often frustrating one that evokes the actual struggle of the camp's refugees.

Although in its purest form, the expository mode has waned in cinematic documentary, games might revitalize this genre. One issue with such games is the potential for propaganda; an unsurprising effect of the rule-set as a substitute for the narrator *qua* voice of God: *the Under the Siege/Under the Ash* series has been criticized for a biased ruleset of the real events it portrays in the Palestinian/Israeli conflict, even as it defends its games as taken from media accounts and primary research (Sisler). But all procedural documentary games need not be propagandist. The procedural frame could be used as a tool to expose and question the game's logic as an ideology of the society the game seeks to expose or critique.

**Interactive**: Nichols participatory mode has two aspects: one of embedded observance, and the other of situated reception. These are passive and active aspects of what we would call the interactive mode. In traditional documentary, the participatory mode exists on the side of the documentarian, who serves as a

surrogate interactor in an exploration based on participant observation. In the game form, players can themselves become the participant/observer. To construct this scenario, the documentarian themselves may become embodied in a situation and then draw the experience to draft the rules of a game from it. In the process, this may overcome one of the inherent limitations of the film mode, reducing the impact of introducing a camera for observation. Escape from Woomera comes close by trying to get as much data as possible through primary research—the game was constructed from images, stories and documents (primary source documents) smuggled from the facility, which was off-limits to visitors and media. In this way, the game reconstructs a reality difficult to access and document via cinematic means. Traditionally, the participatory mode has also accommodated the presence of the construct: acknowledging, in a sense, there is no true observation. This is an advantage for documentary games, as the constructed nature of the experience is never as transparent as in lens-based forms.

**Reflexive**: The reflexive form of documentary centers on meta-commentary; it is both a documentary and a critique of the form. This is a mode in which game documentary has strong potential, working in tandem with a player's ability to deconstruct the rules of the system in order to master the game. Games in this genre may also be subject to the overall cultural metaphor of "game" in relation to reality: by revealing the "gameness" of a situation, effortless commentary (for better or worse) is made. The game may even work by exploiting the gameness of

Polytechnic Institute 2003) is reflexive in this sense. In this prototype produced by the Hong Kong Polytechnic University, the player takes the role of a photographer documenting the atrocities of the massacre of Chinese civilians by Japanese forces in Nanjing. Here the game lays out a single instantiation of an event, while the player actively takes the position of constructing *reality* from the historical recreation. Another example of the reflexive form can be found in Imaginary Production's photography game *Snapshot* (forthcoming), wherein players have to figure out how to 'infiltrate' their subject. A more abstract representation such as *Waco Resurrection* also overlaps in this category. The game critiques both the official "reality" of the ATF siege and the "reality" of games possible in the current commercial marketplace.

Still using Nichols work as a contextual frame, we can suggest additional, speculative modes of which examples presently exist:

Generative: A counterpart to the observational mode. While there is an obvious affinity between lens-based media and raw observation, this becomes difficult in digital games. One potential interpretation might be games driven by real-world data or processes, or are continuously constructed by its subjects. Such works are prominent in digital art as a whole, so it is reasonable to conceive of documentary digital game equivalents.

**Poetic**: Deeply situated in early modernism, the poetic mode is a more abstract presentation of raw material designed to evoke mood, loose association,

fragmented and subjective perception. A possible game of this type might be Engeli and Czegledy's *Medieval Unreality*, where primary images, sounds, etc. are enclosed in a metaphoric game structure<sup>8</sup> as a response to Albania's "blood feud." The game has been adapted as a game modding workshop, where Albanian participants integrate their own documents and histories into variations of the game.

#### Use of the Model

In addition to using the categories above for locating existing works identified in the genre, we might also use the model to suggest new opportunities for documentary games. Lets start with sports documentary: certainly there's a difference between a repeat viewing of last night's game, and a work such as *When We Were Kings* (1996). The creative treatment of the work certainly informs its documentary quality, and the incoming expectations set for the player. For example, the *Madden* series of American football games is not put forth as documentary, nor structured as such. But it seems reasonable that you could create a documentary sports game centered on a factual circumstance. A game could present a detailed modeling of actual players' abilities, situated around a real game (this already happens to some extent, but not such that one could argue actuality). In this (hypothetical) game, you can play out a historic series so accurately, there is a feeling even alternate outcomes have a *reality* to them (in this case, your "aha" might be something like: "If player X would have thrown the ball to player Y, they would have won!"). Or perhaps the documentary quality of the work is simply

<sup>&</sup>lt;sup>8</sup> Using the original game engine and rules of *Unreal Tournament* (1999).

reinforced through supplementary material—unlocking player interviews, histories, video, news reports, etc.

A procedural variant of a sports documentary is likewise conceivable: we know the rules of the game, we can determine factors such as player ability over time. A sports documentary could shed light on the business, legal, or even substance abuse issues surrounding professional sports. Such games would likely include actual play as well as sideline activities. Some current sports games already suggest opportunities in this space, such as the ESPN series, which allows players to manage athletes' lives off the field. An interactive version might delve deeper into player qualities; perhaps attempt to reveal lesser-known socio-cultural rules of the game. Our observer in this mode need not be an embedded reporter (as dictated in the film model); for example, we could "observe" using collected bio-sensor data. Maybe our "a-ha" moment comes from watching the rate of a player's fatigue, and how that impacts our game result. In such a scenario, an actuality that is difficult to present effectively in non-fiction film (an invisible change in biological status), is significantly revealed in the game form. A more generative mode is also possible: maybe we want to collect this data in real time, and concurrently play our version of the game. Or perhaps our approach is reflexive — creating an alternate way of viewing the game experience. Maybe through our clever manipulation of commentary and camera, we can make our guy the hero, and score a salary hike and prestigious endorsements.

## **Implications**

To claim that documentary games do exist — or at very least, games with a strong documentary quality — we necessarily conjure difficult questions regarding of responsibility, rights, and media literacy with regard to digital games. Documentary games also suggest similar issues that receiving less attention in traditional documentary works. For example, does a designer have the right to construct a game from a personal biography that does not necessarily adhere to the historical record (instead arguing multiple instantiations of a claimed actual system of events)? Do we feel as strongly about such a reconstruction as we would a similar cinematic reconstruction — or does this in turn expose film hiding behind the Roland Barthes' argument that you cannot argue about the actuality of photographic representation, only its interpretation (Barthes 76)? The existence of such games also underscores deeply rooted views on history, justification and impact. There is a lot at stake at negating the implication that the linear past is anything other than inevitable, justified, and favoring the smartest and strongest rather than the simply fortunate. Exposing the underlying systems at play, revealing alternate histories and embedding participants in these experiences is an entirely new model for preserving cultural memory, and not necessarily one willing to uphold the status quo.

Further, we must also examine the implications of such games in relation to the cultural position of games as entertainment media: devoid of serious consideration, and thus inappropriate by their very nature for actual subjects. We can trace this sentiment in the diatribes against identified documentary games by detractors who have only

anecdotal knowledge of these works. In reference to the heavy attacks against JFK Reloaded, Fullerton asks what exactly it is about a game-based depiction "that provokes such strong feelings when we are talking about an event that has been covered, from every possible angle, by every other form of media? Do we condemn Oliver Stone's JFK? The History Channel's The Men Who Killed Kennedy? Or any of the innumerable books, websites, reports, documentaries and other forms of discourse surrounding this event?" She goes on to ask whether it is the simulation itself which is at issue, or the fact that the simulation was presented in game form, was highly specific, and dealt with a significant and emotionally-charged event. While Fullerton is certainly correct in implicating the view of games as "low" culture as playing a significant role in the attacks on documentary games, it is also unfair to completely dismiss these criticisms without taking into account the potential qualitative differences in which these game present this "factual" information. On the other hand defenders of the genre commend ways the medium can personalize and engage participants in these events, rather than reducing it, as Hanson indicates, "to the spectacle of rolling news reruns of passenger jets hitting the World Trade Center" (Hanson 135). Can we substantiate the argument towards the value of these works: that documentary games reveal new knowledge about the world by exposing underlying systems and embedding participants; that they are naturally reflexive and can build media literacy and cultural critique. Digital games are a popular and powerful medium with a potential yet to be fully explored, and one in which actuality and documentary might still find a place. But to enjoy further success, it must move beyond

the mere instantiation of "documentary" as a legacy, and work to define the properties endemic to the genre in digital game form.

#### **Works Cited**

- Afkar Games. *Under the Ash.* Damascus, Syria: Afkar Games, 2005.
- ——. *Under the Siege*. Damascus, Syria: Afkar Games, 2001.
- Barthes, Roland, *Camera Lucida*. Trans. Richard Howard. New York: Noonday Press, 1981
- Bogost, Ian. "Frame and Metaphor in Political Games." *Changing Views: Worlds in Play,*Selected Papers of the 2005 Videogames Research Association's Second

  International Conference. Ed. Suzanne de Castell and Jennifer Jenson. Vancouver,

  BC: Videogames Research Association, 2005. 59 68.
- ——. *Unit Operations: An Approach to Videogame Criticism*. Cambridge, MA: MIT Press, 2006.
- C-Level. Waco Resurrection. Los Angeles, CA: C-Level, 2003.
- Electronic Arts. *Medal of Honor: Rising Sun*. Redwood Shores, CA: Electronic Arts, 2003.
- Engeli, Maia and Nina Czegledy. Medieval Unreality. lindart.org, 2003.
- Escape from Woomera Collective. *Escape from Woomera*. (unpublished).
- Firaxis. Civilization. Alameda, CA: Microprose, 1991.
- Fullerton, Tracy, "Documentary Games: Putting the Player in the Path of History,"

  Playing the Past Conference, University of Florida, Gainesville (March 2005).
- Galloway, Alexander. "Social Realism in Gaming," Game Studies 4:1 (2004), http://www.gamestudies.org/0401/galloway/.
- Gearbox Software. *Brothers in Arms: Road to Hill 30*. San Francisco, CA: Ubisoft Entertainment, 2005.

Grierson, John, *Grierson on Documentary*. ed. Forsyth Hardy. Los Angeles: University of California Press, 1966.

Hanson, Matt. *The End of Celluloid: Film Futures in the Digital Age.* Rotovision 2004 Hong Kong Polytechnic Institute. *Eyewitness*. (unpublished).

Imaginary Production. Snapshot. (forthcoming).

JFK. Dir. Oliver Stone. Kevin Costner, Tommy Lee Jones. Warner Bros., 1991.

Maxis. Sim City. Brøderbund, 1989.

Mirapaul, Matthew. "Online Games Grab Grim Reality" New York Times. Sept. 17, 2003 Arts and Cultural section.

Nichols, Bill. Representing Reality: Issues and Concepts in Documentary. Bloomington, IN: Indiana University Press, 1991.

——. Introduction to Documentary. Bloomington, IN: Indiana University Press, 2001.

Plantinga, Carl. *Rhetoric and Representation in Nonfiction Film*. Cambridge University Press, 1997.

Ryan. Dir. Chris Landreth. 2004.

Shiny Entertainment. Enter the Matrix. New York: Atari, Inc. 2003.

Sisler, Vit. "Videogames and Politics" Entermultimediale 2, Prague, Czech Republic, 9-12 May 2005.

Souriau, Etienne. L'Univers Filmique, Paris: Flammarion, 1953.

The Thin Blue Line. Dir. Errol Morris. Anchor Bay, 1988.

Traffic Games. JFK Reloaded. Glasgow, Scotland: Traffic Games, 2004.

When We Were Kings. Dir. Leon Gast. Muhammed Ali, George Forman. Universal Studios, 1996.