EXPERIENTIAL NARRATIVE IN GAME ENVIRONMENTS

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ABSTRACT

This paper explores the contentious notion of experiential narrative and proposes the first step in a narrative framework for game environment. It argues for a shift in emphasis from story-telling, the dominant mode of narrative in literature and cinema, to story generation. To this effect the paper forwards a perspective on experiential narrative that is grounded in the specific qualities of the game. This avoids the over-generalization that tends to accompany discussions of experiential narrative while retaining the cognitive dimension in play.

Author Keywords

Alterbiography, Narrative, Experience, Story.

Interactivty and Narrative Generation

This paper will focus on the on-going generation of "alterbiography" in games. I am using the latter term here to refer to the here and now interactions with the game environment that generate story through the players` interpretation of events occurring within the game environment, their interaction with the game rules, human and AI entities and objects. It is the combination of these elements that the generation of story during game-play becomes possible. This means that unlike Juul's [8] argument that "you cannot have interactivity and narration at the same time", this paper argues that *interaction generates, not excludes story.*

Alterbiography is borne out of the ergodic qualities that define games. It is not that ergodic media do not contain important story elements as Eskelinen [4] argues, but the form these story elements take is not adequately described by classical narratology. It seems counter-intuitive for Eskelinen to claim that "It should be self-evident that we can't apply print narratology, hypertext theory, film or theatre and drama studies directly to computer games" [4] and, in the very same paper, build an argument against narrative in games based on claims developed by the most ardent of literary narratologists. To invoke the highly critiqued assertion by Genette [5] and Prince [9] that narratives require a narrator to be such undermines

Eskelinen's previous quote about the need to rethink existing theories originating from other media in the context of games. What Eskelinen proves is that narrow conceptions of narrative that apply to a limited portion of oral and literary texts (by no means, all literary texts!) is not applicable directly to games, not that games do not have important story elements.

As Ryan [11] has stated, the arguments brought forward by Eskelinen and Juul merely imply that they do so in a different ways from literature and movies. This is not a negative claim for games. Quite the contrary; game environments have reached a sufficient level of sophistication that not only allow, but demand, a redefinition of classical notions of narrative. The rest of the paper will propose a formulation of the experiential dimension of generated narrative that is grounded in the interaction between the player's cognitive faculties and the semiotic and mechanical qualities of the game environment.

Which Games?

Before we begin our discussion of experiential narrative I would like to clarify the media objects I am referring to in this paper when I talk about games. I would here like to avoid what I find is a problematic tendency within Game Studies: the practice of formulating theoretical and analytical frameworks that are meant to be applied to "games" without taking into account the fact that the various media objects referred to have radically different qualities. Using the blanket term "game" to refer to anything from a game of physical football to the computer-based *Bejewelled, Grand Theft Auto IV* or *World of Warcraft* undermines analytical accuracy. This is particularly the case of foundational theoretical framework building. If we are to be rigorous in our study of games we need to be very clear about what forms of games we are referring to. The computer's ability to simulate any object, place, entity or behaviour that can be coded opens up the danger of following common usage of the term "game" by referring to all forms of software designed with entertainment as such. There is a considerable problem in trying to create theoretical frameworks for understanding a

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particular aspect of games without differentiating between *Bejewelled* and *GTA IV*. If we do, we run the risk of talking at cross-purposes. It is close to impossible to have a sensible discussion about, for example, stories in games, when one side of the conversation is taking chess as an example and the other *GTA IV*. There is little sense to the argument: chess has no meaningful narrative component and since chess is a game and so is GTA IV, ergo GTA IV has no meaningful narrative component either.

As Ryan [11] argues, digital games (and table top role-playing games before them) have enabled the combination of traditional game's ludic elements with the fictional and narrative aspects of the media that preceded them. With this in mind, this paper is mainly concerned with games that take place in spatially navigable virtual environments populated by entities and (or) objects with whom players can interact; what Aarseth has called "games in virtual environments" [18]. Examples of such games would be *Oblivion*, *GTA IV*, *Call of Duty IV* and *Half-Life 2*, *World of Warcraft,* among many others. What do I mean by "virtual environment" here? Does the stage in *Guitar Hero* constitute a virtual environment? What about Facebook? Here is a definition developed in another work [2] that aims to avoid vagueness of application while giving a precise and positive account of virtual environments:

> **virtual environments are computer generated domains which create a perception of traversable space and afford the exertion of player agency. They are populated by objects and often human or AI controlled entities with whom players can interact with.**

This definition allows us to separate chat rooms, web pages, blogs and webcam applications from virtual environments like driving simulators, virtual reality applications and the majority of digital games. The "game" modifier can be applied in the middle of the phrase to specify those virtual environments that have game-like properties. Virtual game environments, although a somewhat cumbersome term, places virtual environments as the broader category under which certain forms of digital games are placed. I say "certain forms" of digital games because just as not all virtual environments are games, not all digital games occur within virtual environments. Digitized versions of card games like Hearts or Poker, or digitized puzzle games like crosswords, Sudoku and the like are not forms of virtual environments. Similarly, following the definition of virtual environments above, *Bejewelled* or *Tetris* are not types of virtual game environments. This paper is concerned with the narrative potentials of game environments, not digital games as a whole.

Experiential Narrative?

A challenge facing a game theorist who finds the notion of experiential narrative analytically productive is to define what is meant by the term without collapsing all forms of experience related to the game as narrative. Although experiential, or emergent, as it has sometimes been called, narrative is strongly related to the cognitive faculties of the player, it does not mean that it exists in the mind of the player without relation to the properties of the artefact that engendered it. Quite the contrary, as Iser [6] has argued in the context of the reading process, the experiential dimension of game narrative is rooted in the (cyber) textual properties of the text at hand. Frameworks proposed by theorists that have approached the experiential side of game narratives have failed to adequately address the interaction between sign, code and mind, resulting in over-generalizable notions that are scarcely productive in specific analyses.

Pearce [9], for example, proposes a set of six narrative elements that may be found in games, the first of which is a component of all games, while the other five occur in different combinations. She briefly outlines the six narrative elements, or "operators": Experiential, Performative, Augmentary, Descriptive, Metastory and Story System. Experiential elements relate to the "emergent narrative that develops out of the inherent "conflict" of the game as it is played, as experienced by the players themselves". This becomes a performative narrative when viewed by an external, non-playing audience. The augmentary narrative includes various "contextual frameworks" like the game environment's backstory. The descriptive narrative describes the retelling of game events to third parties. The metastory is described by Pearce as the story line, while the story system refers to the underlying rules and code that generate the above mentioned forms of narrative.

Although Pearce's [9] attempt is notable for its acknowledgement of the importance of player activity in forming the on-going story, it suffers from over-generality that does not make the framework particularly useful. She applies the framework to describe the narrative aspects of a game of basketball and later discusses *Tic-Tac-Toe* and *Battleship.* As I argued earlier, it seems largely uninteresting to discuss the narrative of a game of *Tic-Tac-Toe* and one would be right to be suspicious of a narrative framework that claims to be constructively applicable to such a wide spectrum of activities and media objects as basketball, *Tic Tac Toe, Battleship,* Chess and *The Sims.* As Aarseth [19] argues, if we attribute all forms of experience related to a game as a form of narrative, the concept loses all analytical value. There is a considerable difference between the notion of alterbiography I am proposing here and Pearce's experiential, descriptive and performative operators.

Pearce formulates the performative operator as a narrative created by an audience watching the players (or their avatars) playing. A constructive analytical framework needs to differentiate between the narrative experienced by the player actively engaged with the game and a derivative, or secondary, narrative that is produced out of this, which becomes, in effect, a form of synopsis. There is an important distinction to my relating the events of *The Matrix* [15] from the narrative presented in *The Matrix* itself. The qualities of the secondary narrative inevitably depend on the original narrative (unless I decide to make them up entirely or have a terrible memory), but it does not seem like a relevant aspect of a framework that describes the story elements of game environments. Similarly, Pearce's descriptive operator also produces a secondary narrative. While the descriptive operator refers to the retelling of the event by a third party describing the game, the augmentary operator relates those descriptions in a production of a text. This is yet another form of secondary narrative which seems only marginally different from the one generated through descriptive operator. Whether it is the player re-telling the events of the game or someone else describing the events of the game or an inscribed version thereof, the resultant product is a re-telling of the story formed through engagement with the game environment and therefore falls outside of the scope of our framework.

Like Pearce, Salen and Zimmerman's *Rules of Play* [12] emphasize the experiential dimensions of story elements in games. They sidestep the discussion relating to the perceived opposition of games and narratives discussed above by focusing on how narrative is experienced in games. *Rules of Play* takes game design as its primary focus and like other practicing game designers, Salen and Zimmerman take the presence of stories in games as a given. Reading through articles on Gamasutra, talks at the annual Games Developers Conference and various game design books it is evident that the central question for game designers is not whether games are stories but, how best to convey stories through games. In his 2008 talk at the Game Developers Conference, *Bioshock* creative director Ken Levine advocates designers to move towards what he calls a "pull" narrative instead of the more traditional "push" mode of communicating story. In the push mode the story is forced upon players through devices such as cut scenes while the pull story mode emerges from the players' interaction with the environment. In an *Edge* article [3] GTA IV lead designer Sam Houser discusses how the dynamic system of the game environment creates moments that feel like pre-scripted narrative events. As increased storage and processing power enables designers to create more complex game worlds, the emphasis on the potential to tell dynamic stories is steadily increasing. Like Salen and Zimmerman, the emphasis in the majority of these talks and articles by game designers is on the players` experience of narrative. When the focus shifts from a pre-scripted to an experiential mode of communicating story the

discussion, both in academic and design circles, there is a tendency to equate all aspects of game experience with narrative.

Salen and Zimmerman [12] adopt Marc LeBlanc's distinction between embedded and emergent narrative. The distinction is invaluable as a starting point for building a framework to understand narratives, particularly because the emergent narrative component accounts for the systemic structures of games

> It is the dynamic structures of games, their emergent complexity, their participatory mechanisms, their experiential rhythms and patterns, which are the key to understand how games construct narrative experiences. To understand game narratives, it is essential to analyze game structures and see how they ramify into different forms of narrative play [12].

This call echoes Aarseth's [17] intervention in *Cybertext* which stressed the importance of taking into consideration the mechanical, coded structures of ergodic texts, not merely their surface signs. In order to develop a coherent and sustainable framework of narrative analysis to be used in the context of game environments the emergent narrative that LeBlanc, Salen and Zimmerman are referring to needs to be anchored in the game elements that generate such a narrative. The major challenge here is to not let the experiential nature of this component of narrative become so general as to become unusable, as was the case with Pearce discussed above.

Although I would agree that we need to look at *how* games create stories, Salen and Zimmerman, like Pearce, stretch the notion of experiential narrative beyond its limit as a useful concept when they fail to make the distinction between abstract games, sports and virtual game environments:

> The dramatic tension of Poker, too, gains its bite from the uncertainty of outcome. Bluffing contributes to the narrativity of the experience, heightening the potential for deceit. As players enter into the psychological space of the bluff, narrative tensions mount. Does she really have the hand she says she has, or is she bluffing? What if she isn't bluffing? Can she still be beaten? He just made a large bet, so he must have a good hand. But he bluffed last round, and he wouldn't try that same trick twice in a row [12].

The importance of experienced narrative to a framework of narrative in game environments becomes problematic when we can apply the concept to any interaction with the game system or thoughts relating to it, as in the example given above. As Ryan [11] has shown, a cognitive perspective on

narrative can be both applicable to a variety of media while catering for the specificities of the form of media object in question, and in order to do this we need to ground the experiential in the (cyber)textual qualities out of which the narrative dimensions emanate. Salen and Zimmerman's poker example views thoughts about other players vis a vis the state of the game as a form of narrativity. It might be more productive to distinguish thoughts about the strictly ludic dimensions of a game system from the game environment's ability to generate story during game-play[1].
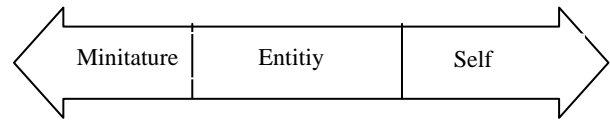
Alterbiography

So far we have established a need to differentiate between narrative content and structures that have been written in by the designers (scripted narrative) from the narrative that is generated during game-play (alterbiography). The latter, experiential, dimension has been discussed by a number of game theorists that have attempted to forward a positive account of narrative in games [7, 9, 12]. These approaches make important contributions but tend to conflate narrative generated through game-play with game experience in general. Jenkins [7], gives a more nuanced view of generated narrative but his focus on space (understandably) does not account for the entirety of the phenomenon.

The on-going narrative that is potentially generated during interaction with the game environment is neither solely a formal property of the object, nor is it a product of free-roaming imagination. Our challenge is to account for this form of narrative generation without broadening its scope to game experience in general. Alterbiography is therefore a cyclical process afforded by the formal properties of the game; it's representational, mechanical and medium specific qualities; and actuated in the mind of the player.

Alterbiographies are about someone, something or a group of things. The subject of an alterbiography can be a unit of marines marooned on an uncharted island or a teenager's forays at a new high-school. In the case of the latter the player can have an external or internal disposition to the character in question. In other words the generation of alterbiography can feature the character as a separate entity controlled by the player or be about the player in the world. This is an appropriation of the notion of focalization proposed by Genette [5].

Focalization in game environments can be expressed as the alterbiography of miniatures, entities and self. Alterbiographies of miniatures describes situations in game environments where the player is not embodied in any single avatar, nor is she anchored in a specific point in the game world. The emphasis on situation is here made to highlight the fact that it is possible for games to present different alterbiographical focalization during the same game. Players can control several entities at once, as is the

case in Real Time Strategy Games (RTSs) like *Age of Empires* or *The Sims*, or control a collective that is not individually simulated and represented such as *Sim City* or the campaign mode in *Medieval II: Total War*. Certain games like *Medieval II: Total War* operate on multiple levels: players can issue orders on the turn based campaign map where each turn spans six months managing their cities, taxes, diplomacy and perform military manoeuvres. But they also control units that make up armies in battle. If players desire they can also participate in the battle from the point of view of the general and thus shift into the alterbiography of entity.

Figure 1: Alterbiography focalization in game environments

The alterbiography of entity describes stories relating to a single entity the player controls. It is differentiated from the alterbiography of self mainly depending on the player's disposition, although third person games more commonly evoke this form of alterbiography. *Max Payne* or *Farenheit* are good examples of such games.

The alterbiography of self is most commonly evoked in first person games like *Half Life 2* or *Mirror's Edge* where players interpret the events happening in the game as happening to *them*. In other words, the alterbiography becomes primarily about me, not about a packaged character I have been given to control.

In all these modes, but especially in the last two, it is always the disposition of the player that matters in determining an alterbiography's focalization. I might be in charge of a whole football team but my alterbiography focuses on myself as manager. Similarly, in a game of *Medieval II* the alterbiography might be focused on the Holy Roman Empire (miniatures) as a whole or myself as the ruler of the Holy Roman Empire (self), or switch between a number of characters in different stages of the game (entity).

Synthesis

Whether you like it or not, your adventures in *The Elder Scrolls IV: Oblivion's* world, Cyrodill, will always begin in the same way: you are in a prison cell without knowing exactly what you have done to merit your predicament. As it turns out the cell you are in was supposed to be kept vacant as it contains a secret passage leading out of the castle, serving as an escape route for the nobility in times of need. In this case it is King Uriel Septim himself that is fleeing the castle after an assassination attempt on him and

his two sons. The king recognizes you from a dream and decides to trust you and let you join him and his bodyguards out through the dungeons. But matters get complicated when the party is ambushed by more assassins. The king gets killed, hands over an important pendant for you to return to a trusted friend of his and eventually you come out of the dungeon into the world of Cyrodill and the game begins in earnest.

Oblivion contains a primary scripted narrative that players can choose to interact with or ignore. The backbone of the scripted narrative consists of a series of quests that the player needs to complete in order to progress further into the events of the scripted storyline. But *Oblivion* contains far more than a single, pre-scripted story-line for players to follow. There are other, minor, story lines, at times leading to further quests and other play out over a single quest and then cease. But these forms of scripted narrative are not the only thing players do. The world of *Oblivion* is an open environment where players create characters and are then free to roam the beautifully rendered landscapes, meet other (computer controlled) agents and very much do as they please; at least within the constraints of the game environment. The world is inhabited by fantasy creatures and folk that go to work, gossip and interact with you. There are houses strewn with everyday objects that can be picked up, thrown, tucked in one's bag and be sold or piled up in entertaining patterns.

The beauty of games like *Oblivion* is not only that the structure of its environment allows open-ended game-play, but that the environment is rife with objects and entities to interact with. Numerous locations are also imbued with embedded narrative [7] elements that enrich the world. In other words, the game environment has been designed to be rich with story-generation potential.

An alterbiography refers to the active construction of an on-going story that develops through interaction with the game world's topography, inhabitants, objects, game rules and coded physics.

Alterbiographies are generated by the player adopting a narrative attitude towards the interpretation of certain representational signs and the mechanical operations that animate them. Not every assemblage of sign and code is going to be an equally inspiring source of story generation for every player. The formation of an alterbiography is thus dependent on the disposition of the individual player. Where one player might find a game environment to be narratively stimulating, another might find the same environment to lack the qualities that inspire story generation for them. Other players might not be interested in interacting with story elements at all. The combinatorial power of the alterbiography is a development of the phenomenology of reading proposed by Iser [6] which similarly describes the combination of textual properties of the printed page with the internal syntheses from the part of the reader:

> The text itself, however, is neither expectation nor memory- it is the reader who must put together what his wandering viewpoint has divided up. This leads to the formation of syntheses through which connections between signs may be identified and their equivalence represented. But these syntheses are of an unusual kind. They are neither manifested in the printed text, nor produced solely by the reader's imagination, and the projections of which they consist are themselves of a dual nature: they emerge from the reader but they are also guided by signals which project themselves into him. It is extremely difficult to guage where the signals leave off and the reader's imagination beings in the process of projection [6].

The concept of alterbiography combines the phenomenology of literary narrative described above by Iser with the characteristics of game environments. The strength of the narrative disposition is always dependent on the players' inclination, but obviously a game environment with more attractive narrative props, to borrow a term from Walton's [16], is more likely to generate an interesting alterbiography . The perspective on experienced narrative I am thus advocating here is a mental construct [11] generated by the properties of the media text. This mental construct can be derived as readily from the numeric values of my character's attributes, or "stats", as it can be from visual and auditory representations. The concept of synthesis described by Iser [6] is the first building block to the generation of alterbiography , which can be seen as a casual assemblage of segments of syntheses .

Synthesis, in this context, is not primarily concerned with identifying fictional as opposed to real elements in a virtual environment[i]. I am not using the concept to signify a particular formal quality or speech-act marker that identifies (and opposes) the fictional with the real. My interest here is to create a vocabulary that will facilitate discussions about narratives generated from games in their various dimensions. Synthesis represents the culmination of the effort between designer and player, writer and reader that becomes manifest in the player/reader's mind. This issue is not unique to games but is present in any representational medium:

> When a work is produced, the creative act is only an incomplete, abstract impulse; if the author existed all on his own, he could write as much as he liked but his work would never see the light of day as an object, and he would have to lay down his pen or despair. The process of writing, however, includes as a dialectic correlative the

process of reading, and these two interdependent acts require two differently active people. The combined efforts of author and reader bring into being the concrete and imaginary object which is the work of the mind. Art exists only for and through other people [14].

As both the quotes by Sartre and Iser argue, in the case of literature the process of syntheses between the arbitrary sign and the mental image it generates is crucial for the reading process to occur. In game environments we interact with both arbitrary and iconic signs (i.e. verbal text, images and audio) as well as the rules of the game, which, if we are able to interpret them meaningfully contribute to the synthesis of fictionality. The process is usefully illustrated by table-top RPGs[ii].

If, in an RPG system which expresses attributes as ranging between the values of 1 to 21, a character with an Appearance value of 4 will be considered rather unpleasant looking. Although the mental image generated by these numbers will vary between players, their imaginings are grounded in the numerical value and the rule system that gives it meaning. If we also know that the same character has an Intelligence value of 18 our image is somewhat reconfigured to take into account this factor. When the player who controls this character declares that he strides out of the tavern where the players' party is discussing where to travel to next, he generates a succession of images based on his declaration and players' image of the character. If the RPG group is using miniatures and markings on a hex sheet to represent the places the party inhabits in and their locations therein, the process of synthesis is further modulated by the representational qualities of the miniatures, terrain and other markings used on the game board. If a player decides to jump from one roof of a house to another, they roll dice to see if the action succeeds. The player has a Jump skill of 51% and he rolls an 80% on a 100 die. The jump roll is failed and the result immediately creates an image in the minds of the players and the game master, who proceeds to ask the player for a Dexterity check to see if the character manages to grasp on to the opposite ledge in time… Both these episodes are examples of an alterbiography generated from stringing together a series of casually related segments of synthesis of interaction with and interpretation of game rules, representation and mental imagery. The examples brought here are trivial in terms of their narrative complexity, but they show how even the most basic of game operations generates narrative segments that contribute to the overall narrative experience.

RPGs are a great example of how rules contribute to the generation of alterbiography since the material analogues, or "props" [16], they use are poor in terms of graphical representational quality. But, no matter how impressive the quality of the representational layer of a game

environment is, its experience, and consequently its narrative elements, only comes together after a considerable amount of synthesising work from the part of the player. Most of the time the player is not aware of the internal work being performed in this operation, as is the case with all cases of perception; at least until the synthesised image is readily determinable. It is only when the qualities of the representation are ambiguous does our synthesising effort become apparent [14].
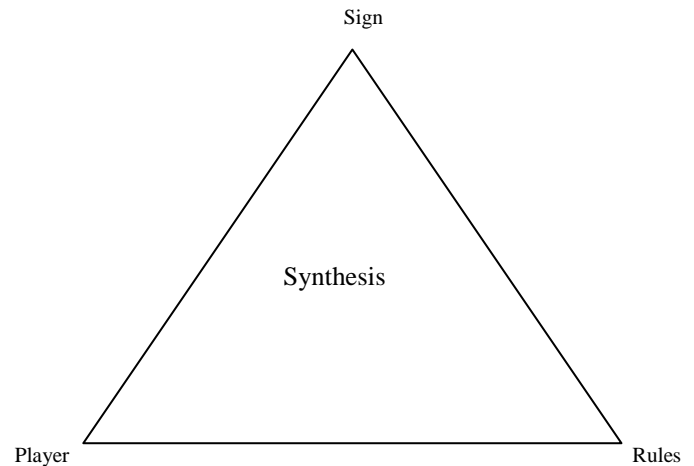
Figure 2: Synthesis in Game Environments

Every segment of synthesis can be located somewhere on this diagram. When taken as a progressive assemblage, these segments make up the alterbiography . The player corner represents the most subjective of imaginings that although inspired by the game are not supported by its rules and code, nor are they communicated by its representational dimensions. An example of this would be the background story of my character in *World of Warcraft*. I might imagine that my Night Elf Muun is leaving his homeland of Teldrassil because of an embarrassing situation with the Head Tailor's younger daughter. Aside from the basic geography of Azeroth and the existence of tailors, the game system does not support this aspect of alterbiography, yet I am free to create it and even act upon it. It is worthwhile noting that although the Player corner of the triangle can be relatively free form, it is still emerging from, and at times influencing in return, the fictional world of the game. Synthesis that is out of place within the fictional world in question is not considered under this framework.

As described by the RPG example above, interaction with the rule system of a game affords the generation of alterbiography. This is no different in virtual game environments. It is often the case that a character's attributes are expressed in numerical values. These values manifest themselves in the course of the game in various ways. A strong character can carry more items before getting tired. A charismatic character might get access to a dialogue option in an interaction with an AI controlled

agent that would not be otherwise available to them, and so on. But there are other imaginings that are based on the rules which are not necessarily upheld by the system. The visual representation of the character in the form of the avatar rarely expresses these numerical values, for example. In *Oblivion*, for example, my character may have a rotund body. As he sprints to and fro in Cyrodill his Strength, Endurance, Speed and Agility increase, but this increase is not reflected in the graphical representation of the avatar. This, however does not stop me from imagining my character's body leaning and developing. The numerical values of a character are internally synthesised with the avatar's graphical representation into a composite image in the player's mind, if the player cares at all. What I am claiming here is not that this is the case in every situation, but when narrative is generated through interaction with rules, the resultant ongoing narrative is a combination of rules, representation and imagination.

The way the overt communication of the game system's machinations generate alterbiographies are not limited to the attributes in Computer RPGs (CRPGs) but occurs, to some degree or other in the majority of games. Let us consider a completely different genre: sports games. FIFA 2008's management mode includes newspaper cuttings that reflect aspects of the history of the team being managed and the career of the manager (referred to by name). After certain matches, the world surrounding the manager, which is merely alluded to, not in any way simulated, is brought to light through simple scenarios that the player has to respond to with one of three options. These situations can range from arguments the players are having about music in the locker room to team visits to local social clubs or appearances from the manager on the media. Responses to these situations yield a variation in fan support, team morale, money or the board of director's opinion of the manager. Although not simulated or represented in any way other than text, they stimulate the player's imagination and add to the on-going alterbiography of the player's career as a manager. Players tend to add their own explanations to such situations which are subjective interpretations of actions upheld by the game system and rules which contribute to the alterbiography of the player as manager. This also happens when the game system is not transparent to the player (which it rarely is) and thus interpretations of certain outcomes, like a team player's performance not living up to their numerical skills, might be attributed to the in-game entity rather than the ineptitude of the controlling player. If Ronaldinho has three matches were he is completely ineffective, it makes more sense for the coherence of the game world to blame the lack of performance on him rather than the controlling player, since the controlling player's role in the game world is that of a manager not a dug-out puppeteer.

At other times there are graphical or audio representations which are not supported by the simulation. The chosen race of a character in *Oblivion* modifies their starting attributes and physical appearance. Other than that AI agents do not treat the character any differently based on their race. However, if my character is of the Redguard race, I might interpret a negative interaction with a Breton character as a sign of racial snobbery and be inflamed enough by it to act differently back in their behalf. This may happen because I am inclined to follow my imaginative input into the alterbiography or because my lack of insight into the machinations of the game system prompts me to assume that this is a racial issue. Whatever the case, the alterbiography is also shaped by representations that are not supported by the simulation.

On the other hand, when the representational signs are supported by the coded rules of the simulation, the alterbiography tends to be more compelling. When the sprint speed numerical attribute of an upcoming player I have recently acquired through a scouting tour in South America increases and I see those changes manifest during the match, the synthesis that situation produces is of a more enduring kind than if it were sustained only by my imagination. Similarly, if every bump of my car in a driving game is both visible on the body of my vehicle and it has an effect on the way that vehicle drive, the alterbiography surrounding my driving scenario is more enduring because it is supported by surface sign and rules in a relatively congruent fashion. I am saying "relatively congruent" here because game simulations are always reductive in nature. They select and implement key features that will convey the designed experience the designers wish players to have, without the need to model every detail, which is, at least at the current state of technologies of simulation, not possible.

Various instances in the game can therefore be traced somewhere within the synthesis triangle I have outlined above. Most situations will fall between the three corners representing varying degrees of blending of the three main determinants: representation, mechanics and the player's imagination.

Conclusion

Although this paper focuses on alterbiography, a more complete view of narrative generation in virtual environments needs to consider how this interacts with scripted narrative. I would argue that although a game environment (but not necessarily all games) can do without a scripted narrative, alterbiography is never absent. It might be uninteresting or trivial, but in some form or other it is always present. If one holds traditional narratology close to heart an objection to the concept of alterbiography might be: why call something narrative if it has not been retold? Do I generate alterbiography when I walk down the street and buy a loaf of bread? In short, what separates alterbiography from memory? To reiterate the core

emphasis of this paper: the generation of alterbiography does not rest solely with the free-roaming imagination of the player or their reconfigured memories. Alterbiography is generated at the intersection of the semiotic surface, the coded structure of the game environment *and* the player's cognitive faculties.

Alterbiography is a concept specific to game environments. In a walk down to the baker's I interact with a variety of signs, but these were not written as a unified whole, but intended as multiple texts which share a relationship at a more general context than their individual scopes allow for. The road sign, the "Jesus Loves Me" sticker on the back of a Volvo and poster for a new burger at McDonalds are part of a constellation of a particular slice of a particular culture. At that general level they are connected, but it would make little sense to view them as part of a single, coherent text. Similarly, the coded structures of games: their rules, physics and general properties of the environment and its inhabitants, are not designed as a unified text to create a specific experience. Aside from this, the physical world does not contain a scripted narrative with which the alterbiography interacts with.

How scripted narratives are structured in games and their interaction with alterbiography will be described in a future paper that outlines a narrative framework for virtual game environments. This paper is a first step in that direction.

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[i] See Aarseth (Aarseth, 2005) for a discussion of the formal qualities of fictional objects in games.

[ii] Table-top RPGs are useful in such analyses because the mechanical workings of the system are transparent to the players and game masters, since they are expressed in numbers that are made meaningful through the cognitive interpretation of the rule-system. Digital games hide these calculations within their layers of code, making them accessible to those that can dissect and interpret it, which, sadly, does not include the majority of game rearchers.