LEVEL UP
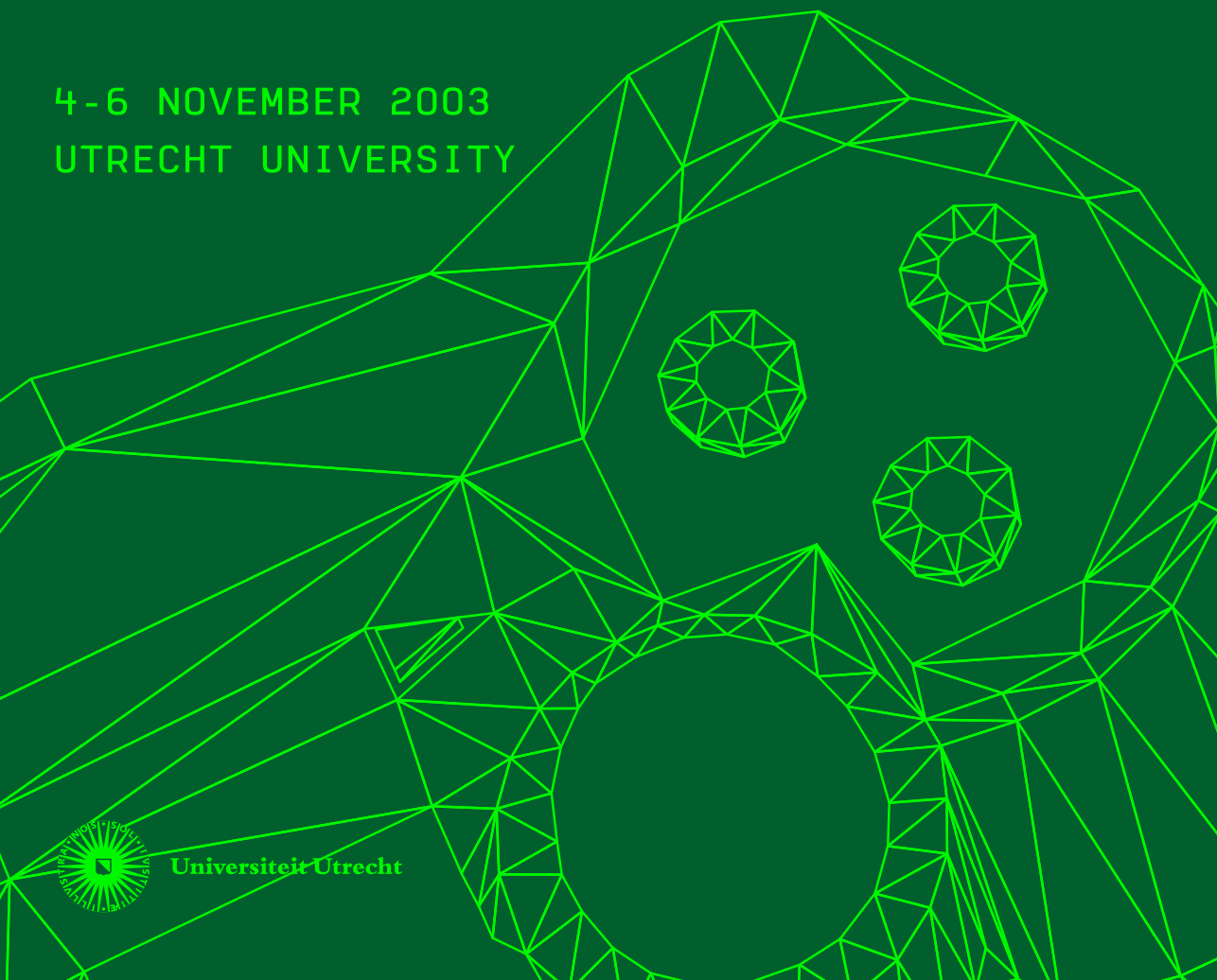
DIGITAL GAMES RESEARCH CONFERENCE

EDITED BY
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DIGRA WELCOME

Frans Mäyrä

There are echoes of games playing in the halls of academia
Digital Games Research Association (DiGRA) aims to rise awareness on the various aspects related to games as a subject of research as well as to create possibilities for games research community to congregate and evolve. An international academic conference dedicated to present the state of digital games research in various countries is key actions to attain such goals.

It has become obvious to everyone working in this field, that the last couple of years will stay in history as a watershed moment in the academic research of digital games. The interest and activity has been gradually rising for years, but lately we seem to have reached the 'critical mass': it is suddenly possible to find a community of knowledgeable individuals who are working on similar subjects, critically discussing each others' work. It is possible to compete from research funding in the most highly acclaimed fora for academic financing, and be seriously regarded (and occasionally even win some grants). It is possible to start building a career and degrees in games research.

Simultaneously, we have to be aware and openly discuss the fact that this field is still in its infancy. The short history has its pros and cons; there are not so many basic concepts, theories and methodologies in game studies that would have been tested and found sound by years of critical research. Most researchers who are experts in games are quite young. This also means that the field is not calcified to any single dogma, and it is actively exploring and finding some core areas that create it own identity, while also testing various interdisciplinary approaches that create variety and exchange with some long-established academic disciplines.

From this angle, the programme for the inaugural Digital Games Research Conference 2003, 'Level Up', organized by Utrecht University in collaboration with DiGRA, is very promising. The emphasis has been on providing a show-room for the variety and scope of academic games research as it currently practiced. As you take a look at the programme, and read the proceedings (both the printed Selections as the electronic Proceedings) you will see that it is quite many things: aesthetic criticism and theory, games design oriented research issues, papers that deal with social dimensions of games, development of artificial intelligence and many other important research topics.

Yet, this is just the opening: the young researchers, students and veterans of academia as well as games research and design professionals meeting in Utrecht will no doubt be the pioneers who will continue to create even more stimulating, challenging and high-quality research in the future, accompanied by newcomers.

On behalf of the DiGRA Executive Board, I welcome you all to the first Digital Games Research Conference 'Level Up' in Utrecht!

Frans Mäyrä
President, Digital Games Research Association

LEVEL UP

Marinka Copier
Joost Raessens

Introduction

Level Up, the inaugural Digital Games Research Conference 2003, is organized by Utrecht University in close collaboration with DiGRA. Located in the heart of the Netherlands, Utrecht University is firmly founded on tradition. Utrecht University, which recently celebrated its 365th anniversary, has developed into one of Europe's largest and most prominent institutes of research and education. With 14 faculties and 70 degree courses, Utrecht University offers a wider range of subjects than any other university in the Netherlands. In the organisation of the university's teaching and research, quality is the key. The conference will take place at one of the most famous buildings of The Netherlands, the Educatorium, designed by the architect Rem Koolhaas.

Within the Faculty of Arts, the department of New Media and Digital Culture was created in September 1998 as a research and teaching center. Its institutional research setting is the Research Institute for History and Culture (RIHC), its educational setting the Institute for Media and Re/presentation (IMR). The New Media and Digital Culture department is an interdisciplinary research and teaching center in which there is a close cooperation between Film and Televison Studies, Communication and Information Studies and Gender and Ethnicity Studies. One of our points of particular interest is Game Studies, in the Bachelor's and Master's degree programmes as well as in our research programmes.

Level Up is a dynamic academic conference and festival that goes beyond the borders of the university. The conference aims to promote high-quality research of computer games and the recognition of game studies as an academic field of enquiry. We would like to encourage dialogue between researchers, practitioners, commercial organizations and policy makers. Therefore we have set up a conference programme which includes different disciplines working on digital games research that will be brought together in interdisciplinary paper, symposia and workshop sessions. Leading researchers and designers from all over the world will present different points of view and approaches from which computer games can be considered. We further would like to support students in digital games and curriculum development at the various academic, art and technical institutions. Therefore we invited students (BA, MA, PhD) to the conference, and encouraged them to present papers and organize symposia or workshops. And we would like to disseminate work produced by the association's community by setting up our conference website (www.gamesconference.org), publishing the Conference proceedings before-

hand and the documentation of the Conference (done by a special team of our students) which will appear as soon as possible after the Conference.

Apart from being a traditional academic conference Level Up is a festival with numerous gaming activities. The Level Up Game Exhibition focuses on computer games and art. It shows how artists deal with the design of virtual game environments. During the Level Up Gamefest the two floors of dance club Tivoli will be filled with games, music and drinks. On the ground floor, you can find well-known Dj's, Vj's, several experimental computer games and spectacular game installations. One floor up cocktails will be served, inspired by the best computer games of the last few years. You can participate in a LAN party workshop organized by the HKU, Utrecht School of the Arts (department Design for Virtual Theater and Games). You can go to the Cave in Amsterdam, the biggest virtual reality environment in The Netherlands. You can visit the Teylers Museum Haarlem, the oldest museum in the Netherlands (1784), where you can play and be informed about the educational computer game Teylers Adventure which was developed by Waag Society Amsterdam. A big-screen game tournament will take place in cinema 't Hoogt where you can play with and against world-leading game players. In the Educatorium a market place is set up where you can find gaming books and gadgets. We hope that the Level Up conference will inspire game researchers, game designers, the gaming industry, gamers, and the general public.

Level Up proceedings

These proceedings open with two keynote lectures, 'This is not a game: play in cultural environments' by Katie Salen and Eric Zimmerman, and 'The game, the player, the world: looking for a heart of gameness' by Jesper Juul. In the rest of the proceedings different points of view from which computer games can be considered are developed and explored. Because they are abstracted from existing research, these approaches are ideal types that are not to be found in pure form. Most contributions will employ one of these approaches, while at the same time touching on others. This structure was inspired by the *Handbook of Computer Game Studies* (MIT Press, 2004, in press) which was edited by Jeffrey Goldstein and Joost Raessens. We distinguish the following six approaches:

VI Research methods

II Design ..... I Computer games ..... III Reception

IV Games as a cultural phenomenon

V Games as a social phenomenon
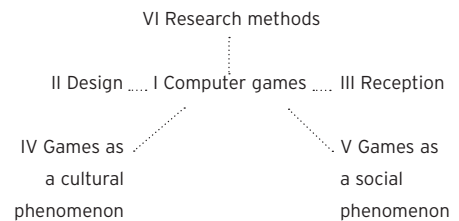
In the first section ("Computer games") we concentrate on computer games themselves. We present six sub-sections: 'What's in a game?', 'What games are made of', 'Narrative', 'Exploration', 'Text and textuality' and 'Pervasive games'.

Section II ("Design") is concerned with the relationship between the designer and the game. Two sub-sections describe game development from the designer's point of view, 'Design patterns' and 'Artificial intelligence and avatars'.

The third section ("Reception") focuses on the individual player's relationship to the computer game. Empirical research on the psychological effects of computer games is reviewed in 'Kids and fun'.

Section IV ("Games as a cultural phenomenon") takes a cultural approach. In 'Gender and ethnicity' we focus on the representation and construction of

various forms of cultural identity.

Section V, "Games as a social phenomenon," considers normative aspects of computer gaming and the effects of games on social behavior. Issues include 'MMOG', 'Marketing, politics and war' and 'Participatory culture'.

In Section VI ("Research methods") we concentrate on questions of methodology. We maintain that 2003 can be seen as the year of computer games methodology. During the conference, our students who participated in the MA-course "New tendencies in digital media: computer game research" (2003-2004) will present the results of their research which focuses on game research methodologies. Also, we pay attention to it in the sub-sections 'On a roll: a study of Super Monkey Ball' and 'Reflections on game research'.

We would like to thank all authors for sending in the excellent work to be included in the proceedings. Because we worked under considerable time pressure, we decided not to edit the English nor the content extensively but let each author present their work according to general instructions. With the selection of papers in the Level Up book, we wanted to represent a broad range of topics, therefore good papers were not included in the book, we are glad that you can find them on the cd-rom that is part of the book.

Off course we could not organize such a large-scale event alone. Utrecht University collaborates closely with DiGRA, HKU, Utrecht school of the Arts, Cinema 't Hoogt, Tivoli and numerous other academic and non-academic partners in the conference implementation. Within the Utrecht University, our special thanks goes to the University Board, the Faculty of Arts, the Research Institute for History and Culture (RIHC), the Institute for Media and Re/presentation (IMR) and the Centre for Information and Multimedia (CIM) for their support, financially and otherwise. Also, we would like to thank our sponsors, Electronic Arts, Nintendo, the Mondriaan Foundation and the Netherlands Organisation for Scientific Research (NWO). We thank Nintendo (GameCube) Microsoft (X-box), Sony (PlayStation 2), Nokia (N-gage) and Electronic Arts for their support in demonstrating their latest consoles and games, Game Face and the World Cyber Games (Ducyco, the gaming company) for their cooperation.

Keynote lectures
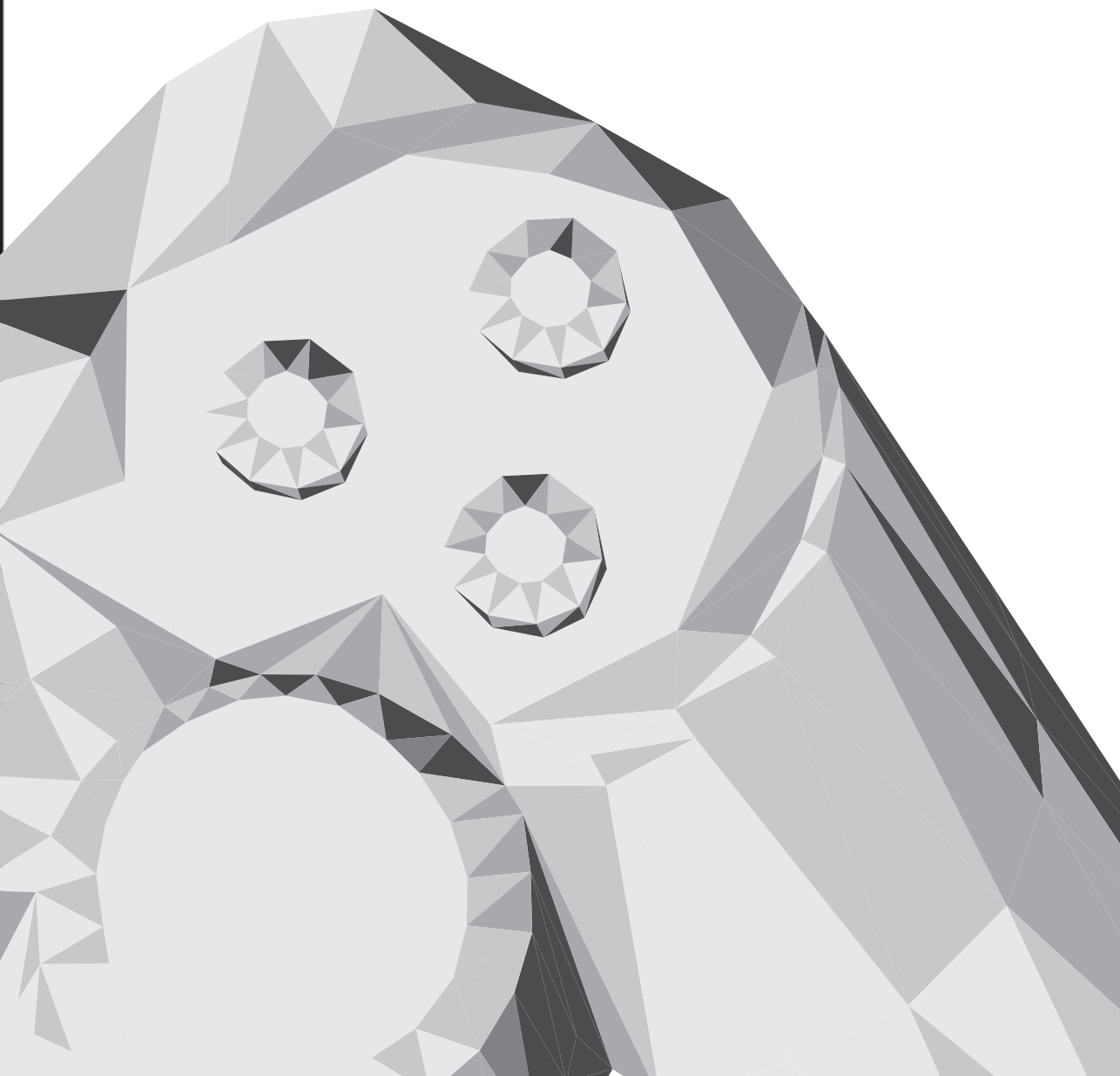
1.THIS IS NOT A GAME:
PLAY IN CULTURAL ENVIRONMENTS

Katie Salen

Eric Zimmerman

ABSTRACT
Games have a particular set of relationships to the contexts in which they are played. Although games have clearly delineated boundaries in time and space that set them apart from the "real world", some games are designed to blur that boundary. This essay, comprised of several selections from the authors' book Rules of Play: Game Design Fundamentals, investigates the complex ways in which games interact with their cultural environment. Focusing on these questions from a game design viewpoint, the essay begins by identifying key concepts related to these questions and ends with detailed design analyses of three games that play with the cultural environments in which the games take place.

KEYWORDS
Game design, magic circle, metacommunication, games and reality, artificial status of games, play context

INTRODUCING THE MAGIC CIRCLE
This is the problem of the way we get into and out of the play or game…
what are the codes which govern these entries and exits?
–Brian Sutton-Smith, Child's Play

What does it mean to enter the system of a game? How is it that play begins and ends? What makes up the boundary of a game and what occurs at that border? At stake in answering these questions is understanding the paradoxical artificiality of games and the way that games relate to the real-world contexts that they inhabit.

In "The Life of Games", philosopher Steven Sniderman, examines how players know that they have entered into the play of the game. According to Sniderman, the codes governing entry into a game are hard to define but nevertheless known but players. "Players and fans and officials of any game or sport develop an acute awareness of the game's 'frame' or context, but we would be hard pressed to explain in writing, even after careful thought, exactly what the signs are. After all, even an umpire's yelling of 'Play Ball' is not the exact moment the game starts".[1] He goes on to explain that players (and spectators) must rely on intuition and their experience with a particular culture to recognize when a game has begun. During a game, he writes,

[1] Steven Sniderman, "The Life of Games" p. 2. <www.gamepuzzles.com/tlog/tlog2.htm>.

"a human being is constantly noticing if the conditions for playing the game are still being met, continuously monitoring the 'frame,' the circumstances surrounding play, to determine that the game is still in progress, always aware (if only unconsciously) that the other participants are acting as if the game is 'on.'"[2]

The "frame" to which Sniderman alludes has several functions. For example, the frame of a game is what communicates that those contained within it are "playing" and that the space of play is separate in some way from that of the real world. Psychologist Michael Apter echoes this idea when he writes,

In the play-state you experience a protective frame which stands between you and the "real" world and its problems, creating an enchanted zone in which, in the end, you are confident that no harm can come. Although this frame is psychological, interestingly it often has a perceptible physical representation: the proscenium arch of the theater, the railings around the park, the boundary line on the cricket pitch, and so on. But such a frame may also be abstract, such as the rules governing the game being played.[3]

In other words, the frame is a concept connected to the question of the "reality" of a game, of the relationship between the artificial world of the game and the "real life" contexts that it intersects. The frame of a game creates a game's feeling of safety.

It is responsible not only for the unusual relationship between a game and the outside world, but also for many of the internal mechanisms and experiences of a game in play. We call this frame the *magic circle*, a concept inspired by Johann Huizinga's work on play.

All play moves and has its being within a playground marked off beforehand materially or ideally, deliberately or as a matter of course... The arena, the card-table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc., are all in form and function playgrounds, i.e., forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart.[4]

Although the magic circle is merely one of the examples in Huizinga's list of "play-grounds", the term is used here as shorthand for the idea of a special place in time and space created by a game.

ENTER IN
In a very basic sense, the magic circle of a game is where the game takes place. To play a game means entering into a magic circle, or perhaps creating one as a game begins. The magic circle of a game might have a physical component, like the board of a board game or the playing field of an athletic contest. But many games have no physical boundaries—arm wrestling, for example, doesn't require much in the

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[2] Ibid.

[3] Michael J. Apter, "A Structural-Phenomenology of Play," in *Adult Play*: *A Reversal Theory Approach*, edited by J. H. Kerr and Michael J. Apter (Amsterdam: Swets and Zeitlinger, 1991), p. 15.

[4] Johann, Huizinga, Homo *Ludens*: *A Study of the Play Element in Culture* (Boston: Beacon Press, 1955), p. 10.

way of special spaces or material. The game simply begins when one or more players decide to play.

The term magic circle is appropriate because there is in fact something genuinely magical that happens when a game begins. A fancy Backgammon set sitting all alone might be a pretty decoration on the coffee table. If this is the function that the game is serving—decoration—it doesn't really matter how the game pieces are arranged, if some of them are out of place, or even missing. However, once you sit down with a friend to play a game of Backgammon, the arrangement of the pieces suddenly becomes extremely important. The Backgammon board becomes a special space that facilitates the play of the game. The players' attention is intensely focused on the game, which mediates their interaction through play. While the game is in progress, the players do not casually arrange and rearrange the pieces, but move them according to very particular rules.

Within the magic circle, special meanings accrue and cluster around objects and behaviors. In effect, a new reality is created, defined by the rules of the game and inhabited by its players. Before a game of Chutes and Ladders starts, it's just a board, some plastic pieces, and a die. But once the game begins, everything changes. Suddenly, the materials represent something quite specific. This plastic token is you. These rules tell you how to roll the die and move. Suddenly, it matters very much which plastic token reaches the end first.

ERASURES
THIS IS NOT A GAME −
A.I.: Artificial Intelligence movie trailer

The magic circle can define a powerful space, investing its authority in the actions of players and creating new and complex meanings that are only possible in the space of play. But it is also remarkably fragile as well, requiring constant maintenance to keep it intact. What happens then, when the boundary of the magic circle is so completely erased that it is difficult to distinguish the space of play from ordinary life? What are the effects of games that blend and bleed into the spaces of the "real world"?

All games share this feature of a magic circle, a frame that demarcates the game in space and time. Certain games are designed to play with this line of demarcation, calling attention to the borders of the magic circle. These kinds of games have a number of curious characteristics. First, they create a heightened overlap between the artificial space of the game and the physical spaces and lifestyles of their players. Second, they blur the distinction between players and non-players, sometimes involuntarily roping in unsuspecting participants. Perhaps most importantly, these kinds of games raise fundamental questions about the artificiality of games and their relationship to real life proper.

The most familiar examples of this phenomenon are found in games such as Assassin (also known as Killer), made popular on college campuses in the 1970s and 1980s, a game in which players stalk, hunt, and evade each other with dart guns over days or weeks of real time. Game play takes place not in a special, isolated game space, but in and among the activities of daily life. Recent digital games have adopted similar design strategies, such as Majestic, a large-scale experimental game by Electronic Arts that took place through fictitious web sites, faxes, and telephone voicemail. When a player's phone rang in the middle of the night it might be a call from the pizza delivery service—or from a character in the game whispering a secret code. Other games, such as the cell phone game Botfighters, tracks the

physical location of players at all times and lets them challenge one another to unexpected duels. Games like Assassin and Botfighters raise a number of interesting questions. How does the play of a game change when the difference between the "inside" and the "outside" of the game is ambiguous? How permeable is the boundary between the real world and the artificial world of the game? Are only certain games capable of blurring these boundaries, or does it happen to some extent in all games? Last, how can answering these questions help us design more meaningful game experiences for players? The three case studies that follow take a careful look at three very different games. In each case, the design of the game blurs the boundary between the game and the cultural environment that surrounds it, leading to novel forms of play.

SHALL WE PLAY A GAME?

Our first case study focuses on a game reportedly designed and operated by Microsoft as a viral marketing campaign for the film *A.I.: Artificial Intelligence*. The web-based game, known by its players informally as "The Beast", "The A.I. Game", or just "A.I.", had participants from all over the world collaboratively deciphering cryptic puzzles and clues across a range of media. The game began with an enigmatic credit at the end of the preview trailer for the film. Savvy viewers picked up on a mysterious listing for "Jeanine Salla, Sentient Machine Thera-pist" and a set of mysterious symbols. When viewers (now players) entered the name "Jeanine Salla" into

an Internet search engine, they began a Wonderland-style journey through a series of linked websites. The sites blended real-world information and information from the fictive world of A.I.'s back story, which concerned a dramatic struggle between humans and robots capable of human emotion.

Over the course of several months leading up to the film's premiere, thousands of players took part in the game. Many expressed profound reactions to the distortion of the boundaries between game, film, life, and reality. As one player wrote in an essay on cloudmakers.org, the most active community site developed by players of the game, "Here we are, every one of us excited at blurring the lines between story and reality. The game promises to become not just entertainment, but our lives. But where in the story is there room for the too-mundane matters of our actual lives that must be attended?"[5] While players were intrigued by and often obsessed with the game, there was a clear sense of uneasiness about the truth of what was actually going on. The ambiguity surrounding the game's status (was it a game, a puzzle, a story, an evil marketing ploy?) made the experience of play oddly compelling. Another player noted,

On the morning of the premiere, we'll know the plot, subplot, conflict, climax and dialogue down to the last poignant pause. Surely the PMs [Puppet Masters, the game's developers] know this; they also know that most of us will go

[5] Andrea Phillips, "Deep Water." July 2001. Cloudmakers.org

[6] Maria Bonasia, "MetaMystery." 30th May 2001. Cloudmakers.org

anyway, to experience it for ourselves. So something undiscovered still remains—the heart of this (and whatever that implies).[6]

Puzzles in the game had players reading Göedel, Escher, Bach, translating from German, Japanese, and an obscure language called Kannada, decrypting Morse and Enigma code, and performing a range of operations on sound and image files downloaded and swapped between players.[7] Sometimes players received actual phone calls from unnamed parties to attend real-world events. At one "anti-robot" rally, for example, attendees solved puzzles and phoned the answers to players at rallies being held simultaneously in other cities. At every moment, A.I. played with the boundaries between the game's magic circle and the cultural spaces outside of it. The play experience of most games can be framed as a *closed system*, in which the play of the game is in some respects bounded by the magic circle. But because the space of play in A.I. was ambiguous, it operated as an *open system*, defying implicit assumptions about the scope of the game's space of possibility. As a result, A.I. mixed freely with its cultural environment at a very deep level. Players were clearly affected by the play such an approach afforded.

Although there is much to be said about this game from a marketing perspective, our interest lies elsewhere—in how its play became meaningful, even as it erased and redefined traditional boundaries separating fact from fiction. What elements of the game contributed to its status as real-world interloper? Following are some of A.I.'s salient design features, incorporating commentary from player Daragh Sankey's online analysis of the game.[8]

Web-based

Although the format of web-based games is not new, A.I. made wonderful use of the web's unique properties. The story was built from an amalgamation of distributed sites. A core mechanic of the game play involved searching and surfing the web, making the Internet fundamental to the game's structure.

Fictional game content disguised as reality

All of the information contained in the numerous sites created for the game was fabricated. There were not, however, any pages that announced, "This is a work of fiction." In fact, many of the websites could easily have been misconstrued as real, such as www.rational-hatter.com. This representational strategy helped reinforce the illusion that the game was part of the real world, rather than part of an artificial game world.

Decentralized content

Unlike most web-based games, A.I. had no single gateway or homepage. Content was spread across many websites, allowing for numerous points of entry. However, the distributed complexity of the game demanded a need for a central information hub. As an emergent effect of player behavior, the website www.cloudmakers.org was quickly adopted as the game's primary player-created portal.

[7] Daniel Sieberg, "Reality Blurs, Hype Builds with Web 'A.I.' Game." May 2001. CNN. com

[8] Daragh Sankey, "A.I. Game." Joystick101.org

Game events occurred outside the web
Although the bulk of the game was located on the web, the most dramatic events seemed to occur offline. Email, faxes, and phones all played a part in the game. For example, the A.I. trailer included an encoded phone number, which when called, played a mysterious voice message from "mother." Players were able to enter characters' passwords into fictional voicemail accounts and uncover new information. Game associated A.I.s even called players at home. Most dramatic, however, were three real-life "rallies" held by the "Anti-Robot Militia" (www.unite-and-resist.org) in New York, Chicago, and Los Angeles. Players were given a date and address, and attended what turned out to be clever theatre pieces. The rallies included puzzles that required real-time collaboration between players at the events and those at home in front of their computers.

Episodic content
Game content was updated weekly, as elements were added, modified, and taken away. Emails were sent out to players; increasingly, sites attached to the game were "hacked" by rampant A.I.s. With its complex, ongoing narrative, the disadvantage of A.I.'s episodic release was that players who joined the game later had a hard time catching up. The advantage was a heightened sense of urgency, because the game couldn't ever be put on pause. As a narrative structure, the episodic release was a natural fit for a web-based game, because most real sites do change over time. Additionally, because the game led chronologically to the launch of the film, it made sense that it built to a single climax.

Distributed problem-solving
Many of the puzzles in the game were extremely difficult to solve (some of them remain unsolved today). For example, messages were hidden in the html source code of certain web pages. Anyone could uncover this information, but since the game had so many websites, solitary players could not possibly get it all. It is safe to say that an isolated individual could never have played the entire game from start to finish. Thus, fan sites served as a meeting ground for game players, who collaborated by sharing new developments and puzzle answers, organizing and sharing problem-solving tasks. This was a bold design decision, because in designing a game it is generally better to err on the side of simplicity and ease rather than complexity. However, with A.I. the risk paid off—the design encouraged players to interact socially, and the collaborative play heightened the satisfaction each time a puzzle was solved.

Interaction between authors and players
Players presumed from the moment the game began that there was a set story arc to the game, which would end in the release of the film. The weekly updates generally involved puzzles that players had to solve before they could access new story content. Many players speculated that because the size and effectiveness of the groups solving the puzzles was an unpredictable variable, the design of new puzzles by the authors of the game was based on past player performance. For example, if a puzzle turned out to be much too hard for the players, the authors were forced to find an alternative means to provide the story update that the solution to the unsolved puzzle would have granted. If the authors did not seek out alternate forms of dissemination, there was a risk of the story never being completed.

Line blurred between players and game designers
It is worth noting that the game's creators deliberately blurred the lines between themselves and the players. In a few cases, game pages linked to fan pages without breaking the dissimulation. Jeanine Salla's essay on "Multi-person Social

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Problem-Solving Arrays Considered as a Form of 'Artificial Intelligence'" linked to the cloudmakers page (www.cloudmakers.org); the Center for Robotic Freedom (www.inourimage.org) urged players to help fight for A.I. rights by visiting the spherewatch page (www.spherewatch.net), another fan site. In fact, one player noted that the easiest way for game authors to control the story delivery would have been for them to surreptitiously join the ranks of the fans, posting solutions to puzzles when they saw that the real players were having trouble.

Each of these design decisions contributed in distinct ways to blur the boundaries between the space of the game and everyday life. All of the elements listed share one thing in common: careful attention to the creation of meaningful play. The web-based aspect of the game, for example, took good advantage of the medium. Players were rewarded for careful web searches and source code sleuthing with meaningful outcomes. Similarly, the social play of the game, from the collaborative puzzles to the real-world gatherings, were also forms of meaningful play engendered by specific game design choices. Even the fine line separating fact from fiction—a line made all the more porous by the game's distributed, improvisational format—was only possible through successful design. Each of these game elements—use of the web, collaborative social play, fiction disguised as fact—intentionally helped to blur the boundaries of the magic circle. The many play dimensions of A.I., from its play with pleasure to its social and narrative play, all intentionally "play" with the border between

the game and the surrounding world that it infiltrates, infests, and inhabits.

A.I. takes the idea of game as invisible playground to extremes. But in one sense, all game experiences involve playing with the distinction between the game world and the rest of the world. Anthropologist Gregory Bateson's concept of *metacommunication* tells us that to play a game is not an act of naïve immersion, but an act of constant communication about the act of play itself. A dog that nips another dog signifies a bite through its action, but also communicates the idea that the bite is not a real bite; the dog is not actually attacking, but is instead just playing.

Play, as a form of metacommunication, reframes the events of the situation at hand, so that actions of "play" are related to, but are not the same as, other actions of "not play." Whenever we play, part of our play-activity involves the communication of the idea, "I am playing." This continual stream of communication between players, and between those playing and those not playing, helps sustain the magic circle. One of the functions of the magic circle is to actively demonstrate its own distinction from ordinary life. As play scholar Sutton-Smith notes, "Playfighting as an analogy to real fighting seems more like *displaying the meaning of fighting* than rehearsing for real combat. It is more about meaning than mauling".[9]

All games engender this quality of double-consciousness, but A.I. took it to new heights. Part of

[9] Brian Sutton-Smith, The Ambiguity of Play (London: Harvard University Press, 1997), p. 23. Our emphasis.

the brilliance of the game's design is that it incorporated metacommunication itself as a form of play. By blurring the boundaries of the magic circle as a key design choice, it made new forms of boundary-crossing possible, intensifying the pleasure of metacommunication. As players moved through the designed structures of the game, at every moment tensions between belief and skepticism, between playing a game and playing real life, moved the game forward and created compelling forms of play.

THE INVISIBLE PLAYGROUND

From the electronically mediated spaces of A.I. we turn to the real world arenas of a LARP, or live-action role-playing game. LARPs blur the boundaries between the inside and outside of a game, but do so through very different means. Live-action role-playing games are direct descendents of tabletop role-playing games such as Dungeons & Dragons. As in tabletop RPGs, LARP players take on the persona of fictional characters, defined through formal game statistics as well as through narrative back story and an invented personality.

Live-action role-playing games, however, do not take place around a table. Instead, LARPs occur in real physical spaces, as players walk about and interact with each other, dramatically acting out their characters' actions in real-time. Although LARPs do have Game Masters that plan and referee the sessions, as well as rules that handle combat and other complex player actions, most LARP activity consists of social interaction, as players converse "in character" to make plans, pursue narrative threads, and scheme against each other. Live-action role-playing games can take place in outdoor or indoor settings, in private or public spaces. The location in which the LARP takes place, as well as the dress and interaction of the players, depends largely on the narrative setting of the LARP. A Medieval-themed LARP might occur in a wilderness environment or a Renaissance Fair. A futuristic LARP might take place in a series of convention hall rooms or in the house of one of the players.

Nick Fortugno, a game designer and LARP Game Master, ran a LARP for many years in New York City based on Vampire: The Masquerade. His game, set in present day NYC, met regularly in public spaces that ranged from Washington Square Park to Grand Central Station. The players all took the role of vampires, ancient and powerful creatures that live secretly among humans. In typical Vampire: The Masquerade games, emphasis is not on physical confrontation or on players hunting humans for blood. Instead, the interest of the game comes from baroque power struggles waged between the aristocratic vampire clans. Fortugno's LARP, titled Seasons of Darkness, was designed along these lines, and was a game of dense social politics and intricate storytelling. Seasons of Darkness successfully engaged with its cultural environment in a variety of ways.

Public Spaces

Although many LARPs take place exclusively in isolated settings, most Seasons of Darkness sessions were held in public urban spaces. Through this design decision, Fortugno (and Tami Meyers, the game's administrator) created a game that intrinsically blurred the boundaries of the magic circle. In most games, even real-world physical games, the play takes place in a field, on a court, or someplace set aside specifically for the game. Seasons of Darkness did not use an artificially designed space, but instead appropriated existing ones. The players integrated their "found" context into the game play in many ways. A balcony overlooking the World Trade Center's Winter Garden, for example, might be used to heighten dramatic

effect for a player delivering a speech to other players below; the same balcony might also be used strategically, as a vantage point for spying.

The game-space of Seasons of Darkness was congruent not just with the material setting but also with the cultural environment of New York City. Media, signage, and unknowing passersby were all fodder for the game. A character on the run might duck into a throng of commuters, camouflaging herself among the passing crowds in an attempt to evade her pursuers. Or two players might be inspired by a clothing store window display to have a conversation about current fads in "human" culture. This use of public space as the space of the game greatly increased options for narrative play. A game's space of possibility (the event-space of all possible game actions that might occur in the course of play) can be quite large, even when the game takes places in a relatively closed magic circle. But chance events and a constant flow of people and culture through a session of Seasons of Darkness made the game's space of possibility truly infinite. The game was played nowhere and everywhere at once, as players continually improvised and invented new ways to engage with their cultural environment.

Real-World Interaction

As with most LARPs, Seasons of Darkness players played their game by moving, speaking, and gesturing "in character." In contrast to most games, in which game actions are stylized, artificial gestures (move a plastic token to a new space on the board when it is your turn; pass the ball to certain players in certain ways), Seasons of Darkness players made use of naturalized behaviors. In Freeze Tag, touching another player on the arm has formal ramifications for play. But in a LARP, touching another player on the arm

usually has the same communicative meaning it does in everyday life: perhaps it is a gesture of empathy, or a silent request for the recipient to stop speaking. This is a significant departure from more typical games. The blurring and erasure of the magic circle takes place not only in terms of the game's setting, but also on the level of the player's interactions. In Seasons of Darkness, the game actions overlapped with the behaviors of everyday life. Gestures, speech, dramatic skills: these tools for social interaction were part of the cultural environment each player brought to the game. Although social communication occurs in most games, in Seasons of Darkness these activities were themselves core game actions.

This is not to say that the game didn't have its own set of stylized play actions; it certainly did. Combat and the use of supernatural powers required stylized behavior, which Fortungno designed as part of the game. It might be the case, for example, that a tap on the arm did not denote an innocent communicative speech-gesture, but instead signaled the use of a magical action. In Seasons of Darkness, a player that had used a special power to turn invisible crossed his or her arms. This gesture signified invisibility, and other players had to act as if the invisible player was not present.

There is an important distinction to make here. Although it is true that a LARP blurs the border of the magic circle, the boundary is nowhere close to being completely eradicated. Despite its lamination with the actions and events of daily life, the game remains capable of generating its own meanings. The meaning of the crossed-arm gesture is artificial, not a part of our everyday lexicon of interaction. Yet this is entirely consistent with what we already know about games. The metacommunicative aspect of player consciousness creates what game folklorist

Gary Allen Fine calls "layers of meaning" in which game character, game player, and real-world context exist together within a web of interconnected cognitive frameworks.[10]

Emergent Storytelling

Whereas some LARPs rely on pre-generated storylines and tightly scripted events, the narrative of Seasons of Darkness was a largely emergent system. Fortugno encouraged bottom-up instead of top-down narratives: many of the most significant story events were player-produced: the result of characters scheming and plotting against one another. Each session was a complex system, with the characters bumping into each other like narrative particles. Every interaction between characters built on previous ones, adding up to larger patterns of narrative behavior. In managing these patterns from session to session, Fortugno had to balance emergent (or procedurally produced) narrative elements with embedded (or pre-scripted) narrative elements. The unexpected, emergent qualities of the game kept it moving in lively, unpredictable directions. But over the course of the years that the game was played, Fortugno also developed elaborately embedded plots that were only fully realized during the game's final climax.

According to systems theory, emergence always takes place within some kind of context: the environment of the system. In Seasons of Darkness, narrative contexts were established out of the complex back story of the game, which was derived from a host of sources: vampire lore and legend; the mythos of the published game rules; a fictional history of NYC vampires that Fortugno had written; established events of previous game sessions; consistent character personalities and their allegiances and enmities; and the public setting and other elements of the cultural environment. Any conversation or interaction between characters took place within a rich narrative context brimming with story potential.

Meta-Narratives

Playing a game in a public space has its challenges, especially when the players are pretending to be vampires. Large groups of players, milling about for hours late at night, could attract unwanted attention from police and security guards. Part of the play of the game included negotiating the friction between the real-world settings and the unusual way that players inhabited them. But remarkably enough, this very negotiation was a site of meaningful play.

In the narrative universe of the game, vampires live in secret, pretending to be human (thus the "masquerade" of Vampire: The Masquerade). The most severe crime a vampire can commit is to leak information to human society about the existence of vampires. For this reason, players speaking about matters of vampire clan politics or supernatural occult powers lower their voices when non-players walk nearby. Players manifest the in-game narrative of secrecy by pretending that passersby need to be kept in the dark about the sinister truth. At the same

[10] Gary Alan Fine, Shared Fantasy,
(Chicago: University of Chicago Press, 1983),
p. 186.

time, players maintain another form of secret information: the fact that they are playing a game. The secret meanings of the game, like the fact that a player with crossed arms is "invisible," remain unknown to the general public.

There is a beautiful double logic to the way these game elements play out. Just as vampires in the fictional game-world keep their existence to themselves, players of the game secret away the very presence of the magic circle. This approach is in contrast to most games, where both players and spectators acknowledge the presence of the magic circle, and the distinction between players and non-players is immediately evident. The special information that Seasons of Darkness players have about the existence of the game is more than the formal information about its rules: it is information that defines the play community and binds it together within a cultural context.

The private knowledge that players have about the game acts to exemplify the narrative itself. Players' imaginative existence as non-human vampires is heightened by the secret status they hold within the public cultural environment where the game takes place. Private knowledge about the game functions as a form of procedural representation, in which signification arises from a dynamic process. A crowd of hapless tourists parts to reveal the menacing black-clad figure of an enemy vampire striding confidently toward you: this is a powerful moment of procedural narrative that could only happen in a LARP. But unlike most forms of procedural representation, where the closed set of rules and game interactions generate a depiction, here representation arises by layering the game onto the real world. The blurring of the game with its cultural environment is itself an act of representation.

Current Events

The Seasons of Darkness game was set in the real world, in the present day. As a result, political events occurring locally, nationally, and globally could be incorporated into the game narrative. For example, in the game narrative, Rudolph Giuliani, the mayor of New York City for the duration of the game, was a mind-controlled stooge of one of the more powerful players. As the Game Master, Fortugno had free reign to tie real-world events to the narrative play of the game; he freely encouraged players to do so as well. When fashion designer Gianni Versace was murdered, the clan of vampires that influence and guide human art and culture played their characters in full mourning for the entire game session following the news. Building on this creative game action, Fortugno decided to make the death a vampiric assassination with larger political implications.

In this way, Seasons of Darkness exchanged meaning with its cultural context and transformed that meaning into game-specific narratives with integrated outcomes affecting future play. Fortugno encouraged players to modify and transform the game's meaning through independent acts of creation. Although Fortugno always had final approval of a player's appropriation of a real-world event, the shared context of the game and its storyline meant that he very rarely had to exercise censuring authority. The significance of player-production in Seasons of Darkness lies in the fact that players were not simply inventing an isolated game object such as a Quake skin or a work of fan fiction. Their act of creation consisted of locating an event in the real world and stretching the game narrative to accommodate it. In Seasons of Darkness, current events acted as the raw material for player-production.

Each of these design elements, acting in concert,

created an extremely meaningful experience, supporting a play community of several dozen players for more than five years. Every game element was the result of careful game design choices. The danger and difficulty of designing a game as fully integrated into its environment as Seasons of Darkness is that the game can run away with itself. Because of its intentional play with the boundaries of the magic circle, the game has the potential to blend too well into its cultural environment. If it becomes too ambiguous, the shared safety and trust that allows a play community to persist can disappear.

Acknowledging this danger, Fortugno kept the game design tightly constrained in many respects, re-writing the rules and streamlining the formal game mechanics so players could focus on role-playing and storytelling. Although the game existed in public spaces, there were always constraints on where players could travel and what they could do during a game. The time of a game session was also clearly marked: every session began and ended with a Peter Pan-inspired ritual in which Fortugno blew imaginary pixie dust and pink smoke over the players. Even in a game with such permeable borders, the time and space of the magic circle remained unambiguously demarcated.

IDEOLOGICAL ENVIRONMENT
For a third and final case study, we look at Suspicion, an unpublished card game designed for an office environment, to be played over a week of real time. Eric Zimmerman created Suspicion while working at a game development company in New York City in the mid-1990s and organized two full playtests of the game. As with A.I. and Seasons of Darkness, the game's design makes explicit use of its cultural environment. But it also engages in a form of cultural resistance not found in the other two case studies.

Each game of Suspicion began with an invitation. Everyone in the company received an email explaining that a game would take place the following week; if they wanted to play, they needed to send a reply. Players were instructed not to disclose to other employees whether or not they had decided to play. In a company of about a hundred, each game involved approximately 20 players. The following week, when the game began, players were given the game rules and a small collection of cards.

One of these cards contained the player's identity. Each player in the conspiracy-themed game belonged to two groups, a sect and an institution. A player might, for example, belong to the Sect of the Turquoise Gear and the Institution of the State. Every player's pair of group affiliations was unique, so no two players belonged to the exact same pair of groups. Each player also began the game with six Stash Cards. Each Stash Card had the color and insignia of one of the groups in the game. The goal of the game was to locate other players in your groups and work with them to acquire Stash Cards with the color and insignia of the group you shared. The first Sect and the first Institution that came to the referee with all of their members and a certain number of Stash Cards corresponding to the group won the game. To help players find each other, each group was given a code word or code gesture to help identify other players in that group.

In order to acquire Stash Cards, a player had to use Accusation Cards to formally accuse another player of being in a group. If your accusation was correct, you could use any of your Stash Cards to "attack" the accused, an attack that played out as a simple dueling card game. If your accusation was incorrect, the target could take a Stash Card from you. Players could also freely trade cards with each other, but

usually did so only with other members of their groups. The general trajectory of the game started with players figuring out who was and was not playing, next using code words and gestures to identify others in their groups, and eventually sharing knowledge and Stash Cards within a group in order to strategically attack other players. The play of Suspicion engaged with its cultural environment in a variety of ways.

Lived Conflict

Suspicion took place in a physical space not designed for the artificial play of a game: an office environment. Unlike Seasons of Darkness, the game space was not a public one that players visited for a limited time. It was the place where they worked, including their offices, lunchrooms, and conference rooms. The game space was one players already knew intimately. For this reason, the game truly colonized its environment. The workspace became synonymous with the magic circle; the time and place of the workday became the time and place of the game. There were a few formal restrictions on where the game could be played (a scheduled meeting with an outside client was out of bounds), but otherwise, when a player arrived at work, he or she had to be ready to attack or be attacked. All games embody a conflict, and tension arises in a game as players struggle to resolve the conflict. One of the roles that the magic circle plays is to contain game conflict rather than allowing it to spill out into ordinary life. As with Assassin, in Suspicion there was no escape from the game conflict; the play of the game had to be integrated into the rest of one's life.

Interventions

Because Suspicion operated in and among ordinary work activities, the play of the game took over and transformed the workplace. For example, in Suspicion each group has a code word or code gesture that it can use to identify other members of the same group. This communicative game mechanic leads to strangely strategic conversations. Each player attempts to reveal his own code word or gesture to find allies, but does so in a very surreptitious manner, so that another group won't notice and acquire the information.

As a result of this mechanic, players became very self-conscious about how they interacted with one another. The game added a new layer of meaning to every in-office speech-act, turning it into a complex action that could be used to identify allies or to foil rivals. Part of the play of any game is making sense of its meanings and representations. By invading and appropriating ordinary communication, Suspicion brings this sense-making aspect of games center stage. Is the person you're talking to about a work task playing the game? Are they trying to tell you something? Have you unintentionally let your code word slip? The sense of altered consciousness was so pervasive that even workers not playing the game joined in, pretending that they too, had a secret identity. From the player reports that followed each playtest, it was clear that these extra layers of meaning were somewhat uncomfortable to inhabit, but nevertheless intensely pleasurable as play.

Shaking It Up

Suspicion was designed to undercut the existing power relationships at work. In any company, an institutional structure defines control and authority: who makes the decisions, who is paid more, who is the boss of whom. When Suspicion players are randomly assigned to sects and institutions at the start of the game, the makeup of these groups has nothing to do with the existing departmental, spatial, economic, or authoritative relationships among players. Suspicion reshuffled and thereby transformed these power relations, changing in some way each

player's relationships to the other participants.

The structure of player identity in Suspicion (each player is assigned a unique combination of group allegiances), ensures that you cannot completely trust anyone else. You might have found the members of your Sect, but each of them belongs to a different Institution that is opposed to your own. One of your Sect members might suggest that you pool your Stash Cards with his, so that your Sect's valuable cards are more properly protected–but he might simply be planning to selfishly use the cards for his Institution. This sense of constant uncertainty and distrust created a tense game atmosphere. The game rewarded deception and play involved much trickery and backstabbing. Not only were existing power relationships undermined, but they were never given the chance to settle into a stable hierarchy.

Suspicion revealed some of the cultural ideologies that help constitute the workplace. But because the game transformed power relationships, it also served as a site of cultural resistance. By undermining the company's existing patterns of authority, it highlighted the typically invisible ways that power usually operated.

Games sometimes exhibit forbidden play, forms of non-game interaction not permitted in ordinary life (examples include kissing in Spin the Bottle or physical aggression in Boxing). Suspicion also permitted forbidden play. In the game, a worker might drop in on his boss, accuse her of being an enemy, and attack her mercilessly with his Stash Cards. By recasting company authority as a tangled web of deception, relationships among company workers were radically transformed. Through its play, Suspicion operated as a cultural critique. It succeeded only because of the way it blurred the edges of the magic circle. A softball game at a company picnic might act temporarily to reframe company authority, but it is not taking place in the participants' actual workplace. The subversive potential for cultural resistance in Suspicion emerges directly from its literal appropriation of the cultural context in which is was played.

In a typical game, the magic circle acts to contain inter-player conflict. Suspicion was not only designed to create mistrust and deception, but had players acting against each other in their usual place of work. The magic circle enframed the office; there was no escape from other players after the game if things went wrong. During the climax of the second game, one player made an offer to pay another player cash for her Stash Cards. The exchange of money never took place, but its mere possibility caused intense emotions to erupt. The game was in danger of imploding, leading the designer to implement a rule outlawing the use of real-world money in the game.

This anecdote points out the power and challenge of designing games as invisible playgrounds. As a transformative political statement about the power of the corporate workplace, Suspicion was a success, seducing players with its genuinely pleasurable game play even while the game play itself engaged in a cultural critique of the players' work context. At the same time, the mischievous resistance of the game was balanced by the need for a sense of responsibility toward the players, as even a game that embodies a radical critique needs to maintain a

spirit of fair play to those it impacts.

CONCLUSION

In the course of this paper, we took a detailed look at three games that explicitly blurred the boundaries of the magic circle. In very different ways, A.I., Seasons of Darkness, and Suspicion played with their cultural environments, effacing the boundaries of the magic circle to a more extreme degree than more conventional games. Yet in each case, although the magic circle blurred, shifted, and blended in with its environment, it still in some way remained intact. In A.I., the players never forgot that the game was really a promotion for a Hollywood film. In Seasons of Darkness, the game sessions took place within strictly delimited physical and temporal boundaries. And in Suspicion, play boundaries, such as the restriction on using money, nudged the game in the direction of being a closed, rather than a more open system. In these three games, the magic circle never entirely vanished. If it had, we probably would not be able to call them games.

So the magic circle did not disappear after all. But each game, in its own way, played with its possible disappearance. The rigid structure among which the play of the games took place was in fact the conventions of games themselves. A game framed as an invisible playground plays with the very definition of what a game is. But some part of that defining game structure remains intact, even as it is transformed through play.

A game that plays with the possibility of its own existence offers game designers potentially rich approaches, leading to entirely new forms of game experiences. For example, designing a game as a cultural environment is an effective way to mount a powerful cultural critique. During the twentieth century, most forms of art and entertainment have engaged critically with their cultural contexts, from Marcel Duchamp's readymades to Hip-Hop's sampled tracks. As a new century dawns, it is time for games to recognize their role within larger cultural environments, in order to celebrate their complex relationships with the rest of culture. Designing games as invisible playgrounds is one design strategy for creating more culturally relevant forms of play.

* NOTE: This paper contains edited excerpts from several chapters of *Rules of Play: Game Design Fundamentals* (MIT Press, September 2003). If you are interested in the ideas explored, we recommend that you explore these ideas in the larger context of the book.

2. THE GAME, THE PLAYER, THE WORLD:
LOOKING FOR A HEART OF GAMENESS

Jesper Juul

ABSTRACT
This paper attempts a definition of games. I describe the classic game model, a list of six features that are necessary and sufficient for something to be a game. The definition shows games to be transmedial: There is no single game medium, but rather a number of game media, each with their own strengths. The computer is simply the latest game medium to emerge. While computer games1 are therefore part of the broader area of games, they have in many cases evolved beyond the classic game model.

KEYWORDS
Game definition, game history, transmedial gaming; computer game history

[1] By computer games I mean all games played *using computer processing* power: PC and Macinotosh-based games, console games, arcade games, cell phone games, etc..

[2] It is of course a common assumption, following Ludwig Wittgenstein, that games *can not* be defined.

[66.] Consider for example the proceedings we call 'games'. I mean board-games, card-games, ball-games, Olympic Games, and so on. What is common to them all? Don't say, 'There must be something common, or else they would not be all called "games"', but look and see whether there is anything common to all. [...]

[67]. I can think of no better expression to characterize these similarities than 'family resem-blances', for the various resem-blances among members of the same family: build, features, color of eyes, walk, tempera-ment, etc. overlap and criss-cross in the same way. And I shall say, 'Games form a family.' (*Philosophical Investigations*, segment 66-67.)

As Bernard Suits points out (Suits 1978, p.x), the suggestion that we should look and see whether there are commonalities to games is a good one, but it is unfortunately not really an advice that Wittgenstein himself follows.

INTRODUCTION

Why is there an affinity between computers and games? Why do we play games on computers rather than using any other recent technology such as the telephone, TV, microwave ovens, cars, or airplanes? Computers appear to work as enablers of games, supporting and promoting games much in the way that the technologies of the printing press, cinema, and television have promoted storytelling. But how do we explain this affinity?

My intention here is to claim the existence of a *classic game model*; a standard model for creating games, a model that appears to have been constant for several thousand years. While computer games were initially based almost exclusively on the classic game model, we can point to several ways in which they have evolved from their non-electronic roots.

While many definitions of games have been attempted, my goal here is to create a game definition capable of explaining what relates computer games to other games and what happens on the borders of the field of games. But what should the definition to look like? We are probably interested in understanding both the properties of the games themselves (the artifact designed by the game developers), how you interact with them as a player, and what the relation is between playing and, say, working. So let's assume that a good game definition should describe three things: 1) The kinds of systems set up by the rules of a game (*the game*). 2) The relation between the game and the player of the game (*the player*). 3) The relation between the playing of the game and the rest of the world (*the world*).[2]

As demonstrated by Bernard Suits (1978), the simplest way to test a game definition is to test it for being either too broad or too narrow. To set up the test before the definition, I will assume that *Quake III*, *EverQuest*, *checkers*, *chess*, *soccer*, *tennis*, *Hearts*, *Solitaire* and *pinball* are games; that open-ended simulation games such as *Sims* and *Sim City*, gambling, and games of pure chance are borderline cases; and that traffic, war, hypertext fiction, free-form play and ring-a-ring-a-roses are not games. The definition should be able to tell what falls inside from what falls outside the set of games, but also to explain in detail why and how some things are on the border of the definition. The existence of borderline cases is not a problem for the definition as long as we are able to understand *why* a specific game is a borderline case.

Source	Definition
Johan Huizinga 1950, p.13.	[...] a free activity standing quite consciously outside "ordinary" life as being "not serious", but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means.
Roger Caillois 1961, p.10-11.	[...] an activity which is essentially: Free (voluntary), separate [in time and space], uncertain, unproductive, governed by rules, make-believe.
Bernard Suits 1978, p. 34.	To play a game is to engage in activity directed towards bringing about a specific state of affairs, using only means permitted by rules, where the rules prohibit more efficient in favor of less efficient means, and where such rules are accepted just because they make possible such activity.
Avedon & Sutton Smith 1981, p.7.	At its most elementary level then we can define game as an exercise of voluntary control systems in which there is an opposition between forces, confined by a procedure and rules in order to produce a disequilibrial outcome.
Chris Crawford 1981, chapter 2.	I perceive four common factors: representation ["a closed formal system that subjectively represents a subset of reality"], interaction, conflict, and safety ["the results of a game are always less harsh than the situations the game models"].
David Kelley 1988, p.50.	a game is a form of recreation constituted by a set of rules that specify an object to be attained and the permissible means of attaining it.
Katie Salen & Eric Zimmerman 2003, p.96.	A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.

THE GAME, THE PLAYER, THE WORLD:
LOOKING FOR A HEART OF GAMENESS

	The game as formal system	The player and the game	The game and the rest of the world	Other
Rules Fixed rules (Huizinga) Rules (Caillois) Rules (Suits) Procedure & rules (Avedon & Sutton-Smith) Formal system (Crawford) Rules (Kelley) Rules (Salen & Zimmerman)				
Outcome Uncertain (Caillois) Disequilibrial outcome (Avedon & Sutton-Smith) Changing Course (Kelley) Quantifiable outcome (Zimmerman & Salen)				
"Goals" Bringing about a state of affairs (Suits) Opposition (Avedon & Sutton-Smith) Conflict (Crawford) Object to be obtained (Kelley)				
Interaction Interaction (Crawford)				
Goals, rules, and the world Artificial conflict (Zimmerman & Salen)				
"Separate" Outside ordinary life / proper boundaries (Huizinga) Separate (Caillois) No material interest (Huizinga) Unproductive (Caillois)				
"Not work" Free / voluntary (Caillois) Voluntary control systems (Avedon & Sutton-Smith) Recreation (Kelley)				
Less efficient means Less efficient means (Suits)				
Social groupings Promotes social groupings (Huizinga)				
Fiction Representation (Crawford) Make-believe (Caillois) Safety (Crawford)				

Some previous definitions
The method I am applying here is to go through seven previous definitions of games, pick out their similarities and point to any modifications or clarifications needed for our current purpose. But before going over the previous definitions, we should note that the definitions do not necessarily try to describe the same aspect of games: Some focus purely on the game as such, some focus purely on the activity of playing a game. Additionally, it turns out that many things can be expressed in different ways. When one writer mentions goals and another mentions conflict, it is possible to translate between them: The notion of conflict entails (conflicting) goals; the notion of goals seems to entail the possibility of not reaching the goal, and thereby also a conflict. We will get back to this, but let us simply list seven game definitions which we will then categorize afterwards: see page 31

There are probably more commonalities than differences in these definitions. But if we return to the idea that we want to look at games on three different levels, we can sort the points of the individual definitions according to what they describe. For example, "rules" describes games as a formal system. That a game is "outside ordinary life" describes the relation between the game and the rest of the world. But that a game has an "object to be obtained" describes the game as formal system and the relation between the player and the game. If we take "goals" and "conflict" to be different ways of expressing the same concept, this allows us to gather all the points of the definitions under ten headings[3]: see page 32

The loose ends
Fiction
The issue of fiction in games is tricky since it depends much on the games we are looking at. For the time being, suffice to say that some games have a fictional element, but that it is not universal to games.

The game and the player: A second look at goals
The list of examples gives us two border case examples around the concept of goals: Sims and Sim City are often labeled games even if they do not have explicit goals. While the games' designer, Will Wright, claims that they are not games but toys (Costikyan), they are nevertheless often categorized as "computer games".

The proposal here is to be more explicit about the player's relation to the game by splitting the concept of goals into three distinct components, namely: 1) Valorization of the possible outcomes: That some outcomes are described as positive, some as negative. 2) Player effort: That as a player you have to do something. 3) Attachment of the player to an aspect of the outcome. As a player you agree to be

[3] This table was inspired by Zimmerman & Salen's work on game definitions, where they provide a more fine-grained table of 8 different game definitions (2003, p.95).

happy if you win the game, unhappy if you loose the game. This is part of what we may term the game contract and curiously happens even in a game of pure chance.

Separate and unproductive: Negotiable consequences

In the definition of Roger Caillois, games are both separate in time and space from the rest of the world and unproductive. It is fairly easy to find examples of games that transgress the first aspect: It is after all possible to play chess by mail, in which case the game overlaps daily life, both in the sense that the time span of the game overlaps a non-game part of life, and in the sense that it is possible to consider the moves one wants to play while going around one's daily business. Likewise, many net-based strategy games stretch over months or even years. The second feature, unproductive, is dubious if productivity can mean something other than the production of physical goods. Caillois' suggestion is that even gambling does not produce anything. From an economic viewpoint, this is problematic since gambling is in fact a huge industry. Let us note that it is possible to bet on the outcome of any game[4], and that many people do make a living playing games.

Separation is a special issue in live action role-playing games, where the games may be played in spaces also used for "normal life". In these cases, specific descriptions have to be made as to what interactions are allowed between non-playing people and players.[5]

Taking a step back, we can see that the notion of separate and the notion of games being unproductive are quite similar in two respects, 1) both specify what interactions are possible (and allowed) between the game activity and the rest of the world and 2) both are clearly not perfect boundaries, but rather fuzzy areas under constant negotiation.

When Caillois claims that a game played involuntarily is not a game, we need to make a distinction between a given game and a given playing of a game. All copies of Quake III do not suddenly cease to be games because someone is making money playing it. And since all games are potential targets of betting and of professional playing, I suggest that games are characterized by being activities with negotiable consequences: A specific playing of a game may have assigned consequences, but a game is a game because the consequences are optionally assignable on a per-play basis. That games carry a degree of separation from the rest of the world follows from their consequences being negotiable.

[4] The possibility of betting hinges on the quantitative outcome of a game - it is only possible to bet if the outcome is beyond discussion.

[5] In the MIT Assassins' guild game played February 23rd 2003, the rules stated the following:
Non-Players: Not everyone in the world is playing in this game. Some non-players (**NPs**) like to sleep or study undisturbed; others just don't like having toy guns waved in their faces. [...] NPs may not knowingly affect the game. They may not be used to hold items or information. They may not help you kill someone. Do not use the presence of NPs to hide from rampaging mobs that want your blood.
(MIT Assassin's guild 2003, p. 1)

A new definition: 6 game features

The game definition I propose finally has 6 points:

1) Rules: Games are rule-based.

2) Variable, quantifiable outcome: Games have variable, quantifiable outcomes.

3) Value assigned to possible outcomes: That the different potential outcomes of the game are assigned different values, some being positive, some being negative.

4) Player effort: That the player invests effort in order to influence the outcome. (I.e. games are challenging.)

5) Player attached to outcome: That the players are attached to the outcomes of the game in the sense that a player will be the winner and "happy" if a positive outcome happens, and loser and "unhappy" if a negative outcome happens.

6) Negotiable consequences: The same game [set of rules] can be played with or without real-life consequences.

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

These points are not on the same level, rather:

· 1, 2, and 4 describe the properties of the game as a formal system.

· 3 describes the values assigned to the possible outcomes of the system - the goal that the player must strive for.

· 4-5 describe the relation between the system and the player. (Feature 4 describes both the fact that the game system can be influenced by player input and that the player does something.)

· 6 describes the relation between the game activity and the rest of the world.

	The game as formal system	The player and the game	The game and the rest of the world
1 Rules			
2 Variable and quantifiable outcome			
3 Valorization of outcomes			
4 Player effort			
5 Player attached to outcome			
6 Negotiable consequences			

Each point merits further elaboration:

1. Fixed rules

Games have rules.[6] The rules of games have to be sufficiently well defined that they can either be programmed on a computer or sufficiently well defined that you do not have to argue about them every time you play. In fact, the playing of a non-electronic game is an activity that in itself involves trying to remove any unclearness in the game rules: If there is disagreement about the rules of the game, the game is stopped until the disagreement has been solved. In a commercial game, the developer will (hopefully) have made sure that the rules are unambiguous, but what about non-commercial games? A non-electronic and "folk" (i.e. non-commercial) game tends to drift towards becoming unambiguous, not in the sense that they don't require ingenuity to *play*, but in the sense that it doesn't require ingenuity to *uphold the rules*. This explains some of the affinity between games and computers - and the fact that a several thousand year old non-electronic game is easily implementable in a computer program: The drive towards unambiguity in games makes them ripe for implementation in a programming language.

To borrow some concepts from computer science, the rules of any given game can be compared to a piece of *software* that then needs hardware to actually be played. In games, the hardware can be a computer, mechanical contraptions, the laws of physics, or even the human brain.

2. Variable and quantifiable outcome

For something to work as a game, the rules of the game must provide different possible outcomes. This is pretty straightforward, but for a game to work as a game activity, the game must also fit the skills of the player(s). Consider this game of tic-tac-toe:
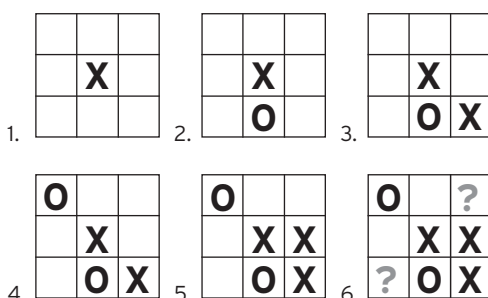
1. X places in the middle.
2. O places in the bottom middle.
3. X places in the bottom right corner.
4. O has no choice but to block the top left.
5. X places in the middle right square, and thereby threatens on two squares simultaneously (left middle, top right).
6. At this point, O has lost simply due to the fact that the first move (bottom middle) was a mistake.

This is a general property of tic-tac-toe: If your opponent begins with the middle, you must *always* place your first piece in the corner, otherwise you will loose to a reasonably intelligent opponent.[7] This

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[6] I have often met resistance to the idea that games have formal rules, probably because it sounds too much like structuralism. But there is a difference. I think that especially in structuralist narratology, many mistaken assumptions were made - a story does not really have a simple underlying deep structure; there is no formula for the creation of all stories. Neither is there a formula for the creation of games. However, every game is a formula for the creation of the game sessions. There is a limited amount of games that can be played in tic-tac-toe, Quake III, or chess. In Quake or chess, the number is simply rather large.

[7] This is an emergent or perhaps 2nd order consequence of the rules of tic-tac-toe: The rules of tic-tac-toe do not specify this; it is a consequence of the rules of the game.

incidentally explains why tic-tac-toe is a children's game, and this is where we find that there is a subjective aspect to games: As a child, tic-tac-toe remains interesting because you still find the choices mentally challenging. Once you figure out the principle, you will achieve a draw every time you play. Variable outcome depends on who plays them, i.e. if players always achieve a draw or if a master player plays his/her best against a beginner, it does not really work as a game *activity*.

Many games provide features for ensuring a variable outcome. For example, Go, golf, or fighting games like *Tekken* allow for handicaps for the players in an attempt to even out skill differences. A few racing games arguably cheat to even out the skill differences between players: In *Gran Turismo 3*, players who are trailing behind on the race track automatically drive faster than the leading players, allowing them to catch up.

Likewise, players themselves may feign ineptitude in order to bring some uncertainty about the outcome - the Tekken player may play slightly unfocused; the race game player may simply drive slowly or even reverse the car, the chess player may try especially daring strategies. We might term this *player-organized criticality* - in the same way that players try to uphold the rules, the players may also try to uphold ensure a variable game outcome.

Finally, quantifiable outcome means that the outcome of a game is designed to be beyond discussion, meaning that the goal of *Pac Man* is to get many points, rather than to "move in a pretty way"[8]. Since playing a game where the participants disagree about the outcome is rather problematic, this undergoes the same development as the rules of a game, towards unambiguity.

3. Valorization of the outcome
This simply means that some of the possible outcomes of the game are better than others. In a multiplayer game, the individual players are usually assigned conflicting positive outcomes (this is what creates the conflict in a game).

The values of the different outcomes of the game can be assigned in different ways: It can be a statement on the box ("Defend the Earth"); it can be stated in the instructions of the game; it can be signaled by the fact that some actions give a higher score than others; by virtue of there only being one way of progressing and making something happen; or it can be implicit from the setup - being attacked by hostile monsters usually means that the player has to defend him/herself against them.

There is a tendency that the positive outcomes are harder to reach than the negative outcomes - this is what makes a game challenging; a game where it was easier to reach the goal than not to reach it would likely not be played very much.

[8] Some judged sports such as figure skating rely on the extra layer of judges to transform the qualitative movement of the skater into a quantitative outcome. (See Suits 1995 for a discussion.)

4. Player effort

Player effort is another way of stating that games are challenging, or that games contain a conflict, or that games are "interactive". It is a part of the rules of most games (expect games of pure chance) that the players' actions can influence the game state and game outcome. The investment of player effort tends to lead to an attachment of the player to the outcome since the investment of energy into the game makes the player (partly) responsible for the outcome.

5. Attachment of the player to the outcome

Attachment of the player to the outcome is a psychological feature of the game activity which means that there is a convention by which the player is attached to specific aspects of the outcome. A player may actually feel happy if he/she wins, and actually unhappy if he/she looses. Curiously, this is not just related to player effort: A player may still feel happy when winning a game of pure chance. As such, attachment of the player to the outcome is a less formal category than the previous ones in that it depends on the player's attitude towards the game; it is part of what we may term the "game contract" or *lusory attitude* (Suits, p.38-40) that the player agrees to by playing. The spoilsport is one who refuses to seek enjoyment in winning, or refuses to become unhappy by loosing.

6. Negotiable consequences

A game is characterized by the fact that it can *optionally* be assigned real-life consequences. The actual assignment can be negotiated on a play-by-play, location by location, and person to person basis. So while it is possible to bet on the outcome of any normally for-fun-game, it is impossible to enter a casino in Las Vegas and play without betting money.

If a player loses a game and faces horrible consequences from this, it is then a question of honor to conform to the negotiated outcome. We should probably emphasize that there is a difference between the actual operations of the game and the outcome of the game. The only way for a game to have negotiable consequences is to have the *operations* and *moves* needed to play the game are predominantly harmless. Any game involving actual weapons has strong *non-negotiable* consequences. This is in itself a point of contention since especially sports carry a lot of injuries and even death with them. Arguably, part of the fascination with some sports such as boxing or motor sports lie in the fact that they are dangerous. But yet it is part of how we treat these games that injuries should be avoided. There will be a public outrage if Le Mans has slack security precautions.

But even so, all games have some officially sanctioned non-optional consequences, namely in that they make take the time and energy of the players, and, more prominently, the attachment described in point 5: that games are allowed to make the players happy or unhappy, to hurt or boost their pride. But then again, only within certain negotiable limits, since there are some quite well-known transgressions such as excessive sulking (being a poor loser), excessive boasting, leaving the game prematurely if one is losing. Especially the amount of permissible teasing and provoking of other players is not set in stone. In actuality, there is a continuous breaking of these ideals: friendships may end over negotiations in Monopoly; players may get angry that their loved ones didn't protect them in a game of Counter-Strike. However, it is apparently an ideal for game-playing that this kind of thing should not occur. It seems that the explicitly negotiated consequences concern aspects that the players can consciously control - such as the exchange of goods - but that involuntary and less controllable reactions such as joy or sorrow require a testing of the waters and are generally less clearly defined.

A special issue regards professional sports. According to Roger Caillois, the professional player or athlete is working rather than playing (p.6). This quickly becomes rather counterintuitive since a contest such as a marathon may include professional athletes as well as amateurs who are running "for the fun of it". This would logically mean that the marathon is and isn't a game at the same time. A better description is to say that even professional players are *playing a game*, but in this specific *game session*, the consequences have been negotiated to be financial and career-determining. Perhaps the reason why we can discuss whether professional sports are games or not is that we associate the game rules with the context they are usually used in.

We tend to not think of something as a game if we have only seen it performed without serious consequences. Hence, even though the rules governing the stock market or elections could be used for game purposes, we do not consider them games, and though soccer is played professionally, we consider it a game because we are also aware that it is being playing in non-professional settings.

The game diagram
In diagram form, all of this can be visualized as two circles as things considered games having all 6 features within the inner circle, borderline or game-like cases falling in the outer circle, and decidedly non-game cases falling outside the outer circle as well:
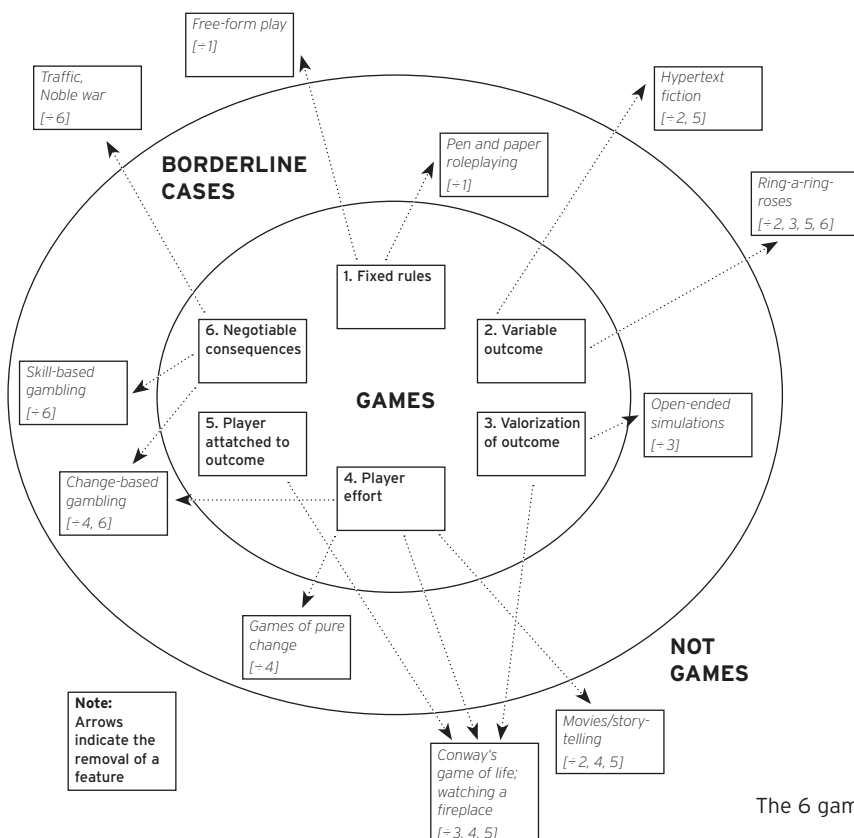
The 6 game features

Beginning with the borderline cases: Pen and paper Role-playing games are not normal games because with a human game master, their rules are not fixed beyond discussion[9]. Open-ended simulations like Sim City fall outside because they have no explicit *goals*, i.e. no explicit value attached to the possible outcomes of the game, but what happens in the game is still attached to the player, and the player invests effort in playing Sim City.

Falling completely outside the set of games, free-form play has no rules; hypertext fiction tends to be a question of browsing a story that doesn't change; structured play like ring-a-ring-a-roses has rules, but a constant outcome; movies and storytelling tend to have values attached to the outcome even if there is only one; watching Conway's game of life unfold or watching a fireplace qualifies as a watching a system with rules and variable outcome, but no values are assigned to the specific outcomes; the player is not attached to the outcome, and no player effort required.

Traffic shares most of the game features, namely rules (traffic laws), variable outcome (you either arrive or you don't arrive safely), value attached to outcome (arriving safely is better), player effort, and players attached to the outcome (you actually arrive or do not), but the consequences of traffic are *not* optional - moving in traffic *always* has real-life consequences. The same applies to the concept of noble war such as war waged respecting the Geneva Convention.

Transmedial gaming

The definition of games proposed here does not tie games to any specific medium or any specific set of props. Furthermore, we know that many games actually move between media: Card games are played on computers, sports continue to be a popular computer game genre, and computer games occasionally become board games. Since this to my knowledge has not been explored in any systematic way, we can take a cue from discussions of stories: Narratives can not be viewed independently, *an sich*, but only through a medium like oral storytelling, novels, and movies. But we can see that narratives exists since they can be translated from one medium to another:

> This transposability of the story is the strongest reason for arguing that narratives are indeed structures independent of any medium.
> (Chatman 1978, p.20)

While it is clear that something can be passed between a novel and a movie and back, it is also clear that not everything passes equally well. For example, novels are strong in creating inner voices and thoughts, while movies better at conveying movement.

We can therefore view games in a similar perspective: While there is no single medium[10] or set of props that is *the* game medium, games do exist, and do contain recognizable features whether being card games, board games, computers games, sports, or even

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[9] Rather a lot of the enjoyment of role-playing games is due to the flexibility of the rules.

[10] I am using the term *medium* in a rather non-technical sense, as a set of technologies that support a variety of different expressions. Due to the general plasticity of rule-based systems, we could potentially describe games as media and game media on a number of different levels:
- Games as such can be viewed as an immaterial medium.
- Computers as such are a game medium.
- A Playstation 2 or any other console is a game medium
- A set of cards (combined with a human brain) or any other set of physical props is a game medium.
- Any toolkit or engine for making games (such as RenderWare, Lithtech, or Half-Life, or Counter-Strike) is a game medium, with the option of building an infinite number of sub-media on top, each with their own affordances and constraints.

mind games. Looking at all these, it is quite clear that there is no set of equipment or *material support* common to all games. What is common, however, is a specific sort of *immaterial support*, namely the upholding of the rules, the determination of what moves and actions are permissible and what they will lead to. This can conveniently be described as computation, which is in actuality provided by human beings (in board games or card games), computers, or physical laws (in sports).

The reason why the card game *Hearts* is transferable to a computer is that the computer can uphold and *compute* the rules that would normally be upheld by humans, and that the computer has the *memory* capacity to remember *game state* and the *interface* to respond to player input. So the adaptation of board and card games to computers is possible due to the fact that computers are capable of performing 1) the operations defined in the rules of the games, operations that is normally be performed by humans, and 2) the keeping track of the game state which is normally done using cards and board pieces. What we have is therefore an ecology of game media that support gaming, but do so differently, and of games that move between different media, sometimes with ease, sometimes with great difficulty.

Chess qualifies as on of the most broadly implemented games, since chess is available as a board game, on computers, as well as being played *blind*, where the players keep track of the game state in their head.

Sports are somewhat special in that the properties of the individual human body are part of the game state. This means that there is less of a clear distinction between the game state and the rest of the world, and that the rules are less clearly defined (hence the need for an umpire).[11]

Game implementations and game adaptations
Note that there are differences in the way that games move between media. Card games on computers should be considered *implementations* since it is possible to unambiguously map one-to-one correspondences between all the possible game states in the computer version and in the physical card game. Sports games on computers are better described as *adaptations* since much detail is lost on the level of the rules and game state since the physics model of the computer program is a simplification of the real world, and in the interface because the player's body is not part of the game state. Adapting soccer to computers is therefore a highly selective adaptation.

[11] What is perhaps contraintuitive is that it is very hard to realistically implement the physics of something like pool, soccer, or bowling in computer games. In fact, at the time of writing, there are several companies such as Havok and Mathengine dedicated exclusively to providing simulation of physics in computer games.

Game media support games in three distinct ways:

1. *Computation*: How the game medium upholds the rules and decides what happens in response to player input.
2. *Game state*: What keeps track of the current game state.
3. *Interface*: How *detailed* an influence the players have on the game state. For example, a simple yes/no choice is one bit, whereas in competitive sports, the detail of the influence is huge since the players themselves are part of the game state.

The distinction between computation and game state is necessary in order to explain the differences between some of the game media mentioned here. In technical terms, the distinction between computation and game state corresponds to the low-level distinction in the computer between CPU (computation) and the RAM (memory):

	Rules	**Game state**
Card games	Human brain	Cards
Board games	Human brain	Game pieces
Competitive sports	Physics + human brain	Players' bodies / game objects
Computer games	Computer (CPU)	Computer (RAM)
Card / board games on computer	Computer (CPU)	Computer (RAM)
Sports on computer	Computer (CPU)	Computer (RAM)
Computer chess	Computer (CPU)	Computer (RAM)
Chess	Human brain	Game pieces
Blind chess	Human brain	Human brain
Dance / rhythm games	Computer (CPU)	Computer (RAM)

Conclusions

While some writers have claimed that games are forever indefinable or ungraspable, I hope to have indicated that games *do* have something in common, that we *can* talk about the borders between games and what is not games, and that it makes sense to look at computer games as being the latest development in a history of games that spans millennia.

The definition proposed here describes games mainly as real rule-based systems that players interact with in the real world. This is a markedly different description from another common one, namely that of describing games as fictive worlds. The relation between these two perspectives is something of an ongoing discussion in games, for game players, and for game designers. In theoretical terms, the question of fiction in games has been described in different, conflicting ways. Erving Goffman proposes a principle called *rules of irrelevance*, meaning that the specific shape of a piece in a game is not important. This goes against Crawford's emphasis on the *safety* on games and Caillois' mention of make-believe - in both cases, the fictive or *make-believe* aspect of games is considered important. The relation between rules and fiction in games is a huge subject of its own, but suffice to say that it's not an either/or question.

Discussing the rules of games, we may have a nagging feeling that games contain a built-in contradiction: Since we would normally assume play to be a free-form activity devoid of constraints, it appears illogical that we would choose to limit our options by playing games with fixed rules. Why be limited when we can be free? The answer to this is basically that games provide context for actions: Moving an avatar is much more meaningful in a game environment than in an empty space; throwing a ball has more interesting implications on the playing field than off the playing field; a rush attack is only possible if there are rules specifying how attacks work; winning the game requires that the winning condition has been specified; without rules in chess, there are no checkmates, end games, or Sicilian openings. The rules of a game add *meaning* and *enable actions* by setting up *differences* between potential moves and events.

After the classic game model

While computer games mostly fall into the classic game model, they also modify and work with many of the conventions of classic games. We find that games *have* changed. So while we can talk about games as being a fairly well-defined form, computer games also modify the classic game model and the history of computer games is to a large extent is about breaking with this standard model of games:

1. While computer games are just as rule-based as other games, they modify the classic game model in that it is now the *computer* that upholds the rules. This adds a lot of flexibility to computer games, allowing for much more complex rules; it frees the player(s) from having to enforce the rules, and it allows for games where the player does not know the rules from the outset.

2. The concept of a variable outcome is modified in online role-playing games such as *EverQuest*, where the player never reaches a final outcome but only a temporary one when logging out of the game.

3. Open-ended simulation games such as *The Sims* change the classic game model by removing the goals, or more specifically, by *not* describing some possible outcomes as better than others.

4. Perhaps implicit in the traditional game model is that fact that a game is bounded in time and space; the game has a specific duration and a specific location. Location-based games and assassin's games break this concept, as do some

"real-world" games such as *Majestic*.

5. The common practice of including semi-official cheat codes in modern computer games means that the player in many cases is free to modify some of the basic rules of a game; the game acquires a quality of becoming a playground or a sandbox.

The affinity between computers and games

Why is there an affinity between computers and games? First of all, because games are a transmedial phenomenon. The material support needed to play a game (like the projector and the screen in cinema) is in fact *immaterial* since games are not tied to a specific set of material devices, but to the computational processing of data. Secondly, because the well-defined character of game rules means that computers can process them. It is then one of the stranger ironies of human history, that the games played and developed over thousands of years have turned out to fit the modern digital computer so well. The six game features are necessary and sufficient for something to be a game, meaning that all games have these six features, and that having these features is enough to make something a game. While we can imagine any number of other phenomena that share only some of these traits and some others, the claim here is that this specific intersection is uniquely productive, allowing for the huge variation and creativity that we are witnessing in games.

This game model is the basis on which games are constructed. It corresponds to the celluloid of movies; it is like the canvas of painting or the words of the novel. The game model doesn't mean that all games are the same, but that these six features are what games use to be different from each other.

Finally, the revolution in games that computers have provided is one of their strongest contributions to human culture. We like to play games, so now we play computer games.

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I

COMPUTER GAMES

3.A MULTI-DIMENSIONAL TYPOLOGY OF GAMES

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ABSTRACT

This paper builds on a general typology of textual communication (Aarseth 1997) and tries to establish a model for classifying the genre of "games in virtual environments"— that is, games that take place in some kind of simulated world, as opposed to purely abstract games like poker or blackjack. The aim of the model is to identify the main differences between games in a rigorous, analytical way, in order to come up with genres that are more specific and less ad hoc than those used by the industry and the popular gaming press.

The model consists of a number of basic "dimensions", such as Space, Perspective, Time, Teleology, etc, each of which has several variate values, (e.g. Teleology: finite (Half-Life) or infinite (EverQuest. Ideally, the multivariate model can be used to predict games that do not yet exist, but could be invented by combining the existing elements in new ways.

KEYWORDS

Game Genres, Typology of games, games in virtual environments

INTRODUCTION

Games are the most culturally rich and varied genre of expression that ever existed. It is also one of the least studied, especially from a humanist, aesthetic perspective. Unlike literature, film, music, painting and architecture, the systematic study of game genres have been mostly neglected over the centuries. Perhaps the reason is that games are so diverse that it is very hard to see what they all have in common.

Previous attempts to classify and typologize games often suffer from the apparent tendency to include too many, arbitrary, incompatible or overlapping categories. Another problem is the use of historically dated technology categories without pointing out this diachronic factor. In this paper we propose a multi-dimensional typology that can be used to classify all games based on spatial movement, including physical sports, board games, and computer games. The typology is biased towards spatial games, but can also be used to classify non-spatial games (e.g. card games) simply by excluding the spatial dimensions.

The fifteen dimensions are grouped under five headings: Space, Time, Player-structure, Control, and Rules. These headings are simply for the

reader's convenience and do not play any important role in the typology itself. It should also be pointed out that the typology is by no means the definite classification system for games; it is open in the sense that it can be improved and partially modified by anyone, simply by rejecting or changing some of the dimensions.

It is vital to point out that we distinguish between game brands (or game platforms) (e.g. Return to Castle Wolfenstein) and actual games played on that platform, e.g. RTCW Multiplayer Stopwatch. Only the latter is a game in our sense, since it makes no sense to look at a single player game and a multiplayer game as the same game. As far as this typology goes, they are two different games, like poker and solitaire, which happen to use the same deck of cards.

Notes on terminology and method

A game is a voluntary trial consisting of rules, and involves one or more players. A player is a human game-participant. An adversary is a strategic agent capable of winning or losing. It may be either human or mechanical/programmed. An intragame is a game within the game, e.g. the Pachinko machine in Duke Nukem 3D. Since computer games are based on simulator technology that could mix or include any other game in addition to the main game, the main game will be the only one classified.

Methodologically, this paper builds on Aarseth (1997), and is inspired by Ziegfield (1989). The dimensional categories and their values are gathered by taking two similar games, say *Morrowind* and *Diablo*, and then try to describe the difference between them in a principal way. If this is possible, the principle is extracted and applied to other games. If there are games that do not fit either categorical value, a third value is introduced, or if this is not possible, the dimension is rejected as too arbitrary. The process is repeated until a suitable list of categories and values have been compiled. This list

then becomes the typology. What follows is a description of each of the dimensions and their variables.

Space

Space is a key meta-category of games. Almost all games utilize space and spatial representation in some way, and there are many possible spatial categories we could use, a typical one being the distinction between 2D and 3D games. However, this distinction seems to be mostly historical, since the early games were mostly 2D and the modern games are usually 3D. Also, it does not allow for a good representation of board games, which are two-dimensional in movement, but three-dimensional in representation. This problem holds for many computer games as well.

1) Perspective: Onmi-present, Vagrant

Games like Chess, football and Warcraft allow the player to examine the entire field or arena at will; their player-perspective is *omni-present*. In some games the view may be partially blocked (e.g. "Fog of War"), but the player is typically able to examine different parts of the field without some sort of strategic movement. In other games, such as Crowther and Woods' *Adventure*, Id Software's *Doom*, or Verant/ Sony's *EverQuest*, the perspective follows a main player-token or avatar: the player-perspective is *vagrant*. An alternative categorization here is often based on visual perspective, typically the games are said to be, 1st person, 3rd person, or isomorphic.

However, many newer games (e.g. *Morrowind*), allow the player to switch between 1st and third perspective, so this distinction cannot then be used to classify these games. Also, an "isomorphic" game could be either omni-present or vagrant, so this category lacks distinctive power, and is not used here.

2) Topography: Geometrical, topological
A game's topography can be either geometrical, with continuous freedom of movement, or topological, giving the player only discrete, non-overlapping positions to move between. In *Quake Arena*, a geometrical game, the player's movements are in all directions, with millions of alternative positions, and the player's position in the game-world can be moved one minuscule increment at a time. In Chess, a topological game, the pieces can only be moved between 64 non-overlapping positions. It could be argued that some games are in-between these two categories, with a limited but overlapping number of positions (e.g. Starcraft), thus deserving a third, separate category. However, since these games typically do not allow game elements to overlap, e.g. only one game token can occupy a given position at any time, we choose to include them in the topological category.

3) Environment: Dynamic, Static
Some game environments remain unchanged for the duration of the game, while others may be modified by the player. In (physical) football and chess, the game arenas remain unchanged, whereas in *Heroes of Might And Magic III*, or *Lemmings*, the environment is strategically manipulated by the player. In the case of certain games, e.g. adventure games where doors may be locked and unlocked, the object of manipulation is merely changed in status rather than

	Perspective		
		Omni present	Vagrant
Topography	Geometrical	D Age of Empires	D Wolfenstein MP
	S Pac Man/football		S Baldur's Gate
	Topological	D Heroes of M&M	D Botfighters
		S Chess	S Gangster City

Fig. 1: A spatial classification using Perspective, Typography and Environment.
D= Dynamic environment S= Static environment

functionally (e.g. building a factory in *Warcraft* or *Age of Empires*), so even if the environment is influentiable and controllable, it is still static.

Time
Time is a hard category to define and describe in relation to computer games. Since games are usually dominated by space, and structured spatially, the use of time varies from game to game, as well as within the same game. In GTA3, for instance, many of the sub-quests or missions are time-based in different ways, and time in these are therefore very different from time for the between-missions game, where the player-character can be left standing around for "days" without any consequences. In short, the functions of time in a game seem to be governed by the social structure of a game. Thus, single-player games can be saved, stored and retrieved, while large multiplayer games do not allow saving, since that would be impossible to coordinate among the players. Similarly, concepts like "bullet time" (Max Paine, Postal 2), would probably not make sense in a multi-player setting, since it would be blatantly unfair. Something similar to bullet time could be achieved, by slowing down the speed of all other players or adversaries, but that would probably weaken the balance (and therefore the perceived quality) of the game.

Since most time-related game structures so often vary within the same game, they are almost useless for classifying games. Nevertheless, here we suggest three dimensions that are general enough to be distinctive.

4) Pace: Realtime, Turnbased
Some games allow the player(s) to be active all the time and independently of the adversaries (if any) in the game (e.g. Starcraft); others, such as Chess or EverQuest, lets each user or adversary act in turn. In games like *EverQuest* the players may make their moves independently of other players, except when

interacting, e.g. in the form of battle, when the players and adversaries take turns beating each other. In the case of EverQuest, a subscribed service, the use of turns is out of fairness, since otherwise those players with good connections or connections close to the server would be much quicker than the rest. The games that let players act independently and at their own speed, for instance *Quake Arena*, are paced in Realtime, while those where the incentive is controlled and interchanged evenly between players and adversaries, is termed Turnbased.

5) Representation: Mimetic, Arbitrary

Another dimension is that of the *representation* of time. In some games, like *Tetris* or *Age of Empires*, the representation is *arbitrary*, since the falling tetraminoes or the building of houses do not mimic the falling or building of real objects. In games like *EverQuest* or *Morrowind*, the representation is mimetic, since the time of the actions in the game mimics the time of corresponding actions in the real world.

6) Teleology: finite, infinite

		Pace	
Representation		Realtime	Turnbased
	Mimetic	F Quake III Arena	F Golf
		I ‹none›	I EverQuest
	Arbitrary	F Age of Empires	F Chess, Heroes III
		I Tetris	I MUD1

Fig. 2: A temporal classification using Pace, Representation and Teleology
F= fifnite (teleology) I=infinite (teleology)

Teleology relates to the final goal of the game. Some games never reach a clear winning state, and could in principle go on endlessly. These games have an *infinite* teleology, while the games with clearly defined successful outcomes for one or more players are teleologically *finite*.

Player structure

All games consist of players (actors). It is common to distinguish between singleplayer and multiplayer games, but we see this as an oversimplified categorization, which fails to describe the important social differences between multiplayer games like chess and *EverQuest*. Instead, we propose six major player structure categories:

7) Playerstructure: Singleplayer, twoplayer, multiplayer, singleteam, twoteam, multiteam

In addition, some games combine multiplayer modes. One example is the BBC TV quiz show The Weakest Link, where a team of nine players both cooperates and competes individually. After voting out one player per round, the final two players compete for the accumulated cash head-to-head. This game starts out as singleteam, becomes multiplayer in the voting sessions between the team rounds, and ends up as two-player. Other complex games, like Anarchy Online, allow players to compete in singleplayer (the spawned missions), multi-player or as multi-team, freely switching between all three. For classification purposes, we have chosen to use the most complex game structure, thus classifying Anarchy Online as a multi-team game, rather than as a multiplayer or singleplayer game. It could be argued that Anarchy Online is not a game but a multipurpose game

platform, but instead of introducing new, conglomerate categories here, we regard AO as a multiteam game with singleplayer options, and the spawned missions as intragames.

The dimension of player-structure could be said to consist of two other dimensions, adversary-structure (None, One, Multiple) and team structure (Individual, Teambased). However, since they combine unproblematically into one six-category dimension, we find it most rational to use the combination instead.

Finally, note that a game with two players on the same team (E.g. the shotgun-based coin-op *House of the Dead*) is a singleteam game, not a twoplayer game.

Adversaries	Individual	Team
None	Singleplayer (Tetris)	Singleteam Dungeons& Dragons
One	Twoplayer (Chess)	Twoteam (Counter Strike)
Multiple	Multiplayer (Quake Arena)	Multiteam (relay race, AO)

Fig. 3: Team-dimension and Adversary-dimension combine to make up Playerstructure.

Control

8) Mutability: static, powerups, experience-leveling (XL)

Games control player behavior with rewards of various types. In some games the rewards are simply points or merely the announcement that one has won. Other games reward the player by strengthening the player-character or player position. This influencing of the player's position we call mutability. Games with no mutability are static. Games with temporary mutability (e.g. a magic sword that may

be found and then destroyed) are characterized by powerups, and games where the (strengthening) change is permanent we classify as Experience-Leveling (XL).

9) Savability: non-saving, conditional, Un-limited

While saving the game (storing and retrieving more than one game state for optimization of results) may be considered outside the game proper, the inclusion or omission of Savability has a huge impact on gameplay. A game that cannot be saved is played much more carefully than a game where the player risks nothing by getting the player-character eliminated. There are many types of Savability, but for categorizational reasons we limit the granularity of this dimension to three main types: A non-saving game is one where the player cannot retrieve an earlier stage of the game. This is typical of most, but not all, two- and multiplayer games. A game with conditional Savability, like GTA3, allows the player to store the game-state only at certain positions (between missions in the case of GTA3). This is typical of Console games, where the storage space (e.g. RAM cards) is limited. A game has unlimited Savability if the game can be saved at any stage and at will.

10) Determinism: deterministic, non-deterministic

Some games rely on a random function to introduce elements and situations. Thus, a *non-deterministic* game cannot be completely predictable, since the outcome of two identical situations may be dissimilar regardless of the player's action at that point. This is true of all non-singleplayer games, where the human players may not control their opponents' moves. A deterministic game is one that invariably produces the same result at a given position if the player input is identical each time.

	Multability		
		Static	PowerUps	XL
Savability	Non	D Tetris N Chess	D Pacman N CounterStrike	D ? N Anarchy Online
	Conditional	D Paperboy* N rugby*	D GTA3 N Halo	D HotPursuit* N ?
	Unlimited	D Adventure N Twin Kingdom Valley	D Wolfenstein Singleplayer N Diablo	D Baldur's gate N Heroes III

Fig. 4: A temporal classification using Pace, Representation and Teleology
D = deterministic
N = non-deterministic

Rules

Rules are the most central element of game, yet are notoriously hard to categorize, since it would then be easy to make a new game that breaks the categorization. Instead, we limit our typology to three simple meta-rule dimensions: the presence or absence of topological, timebased and objective-based rules. The effect of these rules must be crucial to the game's progress or outcome.

11) Topologicalrules: yes, no
A topological rule is a rule that is determined by a condition (say, the player-character's presence) at a certain position in the gameworld. If all rules are universal, then the game has no topological rules.

12) Timebasedrules: yes, no
A game's rules are timebased if the mere passing of time changes the games status in a significant way. Thus, GTA3 has timebased rules, since the passing of time in the missions often determines if the outcome is successful or not.

13) Objectivebased rules: yes, no
A game has objective-based rules if its progress or outcome depends on a specific condition being met. Such a rule is typically an addition to the general rules, where a specific game state is specified (attaining a city or killing a hero in *Heroes III*, or bringing the documents to the Radio room in RTCW: *Beach invasion*).

Conclusion

These dimensions and their values were attained by close comparative analysis of a number of games. The typology can be used to classify any game, and thus two similar games can be compared and their differences identified and described in detail. Also, new games can be predicted or even constructed simply by adding or changing features along one dimension, e.g. turning an omni-present, realtime multiplayer game (e.g. Starcraft), into an onni-present, realtime, two-team, experience-leveling game. Further research is needed to decide if these dimensions are good enough, but the model does not need to be accepted or rejected as a whole: Any dimension can be modified or replaced, and new dimensions can be added, without destroying the underlying principle.

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4.THE GAMING LANDSCAPE:
A TAXONOMY FOR CLASSIFYING GAMES
AND SIMULATIONS

Jan.H.G. Klabbers /

ABSTRACT

Following Huizinga's view, the play element of culture is emphasized. While playing, by means of rules, the participants in a game interact with one another to impact on the reference system. Thousands of simulation games are available that depict many different areas and purposes of use. The variety of the gaming landscape is illustrated by linking the various foci and areas of interest in one scheme. To see the wood for the trees, the generic model of games is presented, based on the three interconnected building blocks: actors, rules, and resources. I will point out that even if games have similar forms, their purpose, subject matter, content, context of use, and intended audience(s), may be very different. A framework for constructing, deconstructing and classifying games emerges, based on the combination of the three building blocks with elements of a semiotic theory of gaming: syntax, semantics and pragmatics.

KEYWORDS

Actors, rules, resources, faces of knowledge, interaction & acquisition metaphor, syntax, semantics, pragmatics, classification, taxonomy, gaming, simulation

INTRODUCTION

Human beings are very big-brained animals that show playful behaviour like many other big-brained animals [3], [12]. Their many manifestations and widespread use show that gaming and playing are bound together by an indissoluble tie with human culture [11]. Huizinga stressed in his book "Homo Ludens" *the play element of culture*, he was not referring to the *play element in culture*.

As gaming is so ingrained in human culture and nature, the language of gaming whether for fun or for scientific endeavour is similar. This is an advantage and a disadvantage. It is an advantage because everybody understands their general meaning. It is a disadvantage, because in science that meaning is most of the time different from ordinary use. So, there is a real chance that people think they understand each other, because they use similar terms, while actually they are talking about different things. Besides this potential confusion, the variety of appearances of gaming is so bewildering that it is worthwhile to develop schemes that can help us to see the wood for

the trees. Therefore, before elaborating on a generic taxonomy, it is appropriate to be aware of those terms in the English language that have similar connotations. These terms are: *exercise; play; game; gamble; model; simulation; simulator* [16]. They overlap to a certain extent, representing a continuum of products and activities. I will further focus on these terms from the scientific viewpoint on gaming, because according to my view, gaming encompasses the other terms, and provides a common context for education, training and research.

Playing games means being involved in symbolic acts that - dependent on their degree of playfulness - are valued for themselves. Training and education in industrialised societies stress the instrumental utility of games. In such a context, games are used as tools, or means, to achieve well-defined learning goals. Increasingly, computer or video games are being designed for purely entertainment purposes. While in traditional gaming, designers use reference systems of the real world, video game designers envision imaginary worlds that may show little resemblance with our daily experiences.

THE GAMING LANDSCAPE
Participating in games implies engaging in embodied experiences. While playing, the participants interact with one another and with the reference system, which can be represented in many different ways such as a board, a computer interface with icons that represent a database, a spreadsheet, an information system, and/or a simulation model. Gaming crosses existing knowledge domains. It is a trans-disciplinary field of research, education and training, and links many areas of enquiry and professional practice (See Table 1).

The field of gaming and simulation is illustrated in Table 1. Each cell represents a particular playing field, covering various forms such as role-plays, board games, computer-assisted and -supported simulation/ games, behaviour simulations, mock-ups, etc. Consequently, many playing fields are available, each of them representing specific learning environments, offering a great variety of learning experiences.

GAMING FOR EDUCATION, TRAINING AND RESEARCH
Games are used for education, training and research. Video games are mainly designed for entertainment. Marshev and Popov [23] relate the semantics of games with social systems. To understand gaming both from a scientific and practitioners' point of view, it is worthwhile to elaborate on their context of use.

In education, games help in understanding the relationships between content, process and context of a subject matter. Emphasis is on handling concepts, relations, and sharing of explicit and tacit knowledge. In training, especially in professional training, emphasis is placed on abilities and skills to improve performance. For example, management games are media to address a variety of issues such as, managerial behaviour, business economics, group dynamics, leadership, strategy, and ethics. Trainers raise awareness of key issues, and the players develop strategies for coping with organizational and managerial problems.

Games are social systems. They are also models of existing or imagined social systems, shaped by the players. While playing a game, people apply knowledge and skills to triumph over difficulties set by fellow players or by socio-economic circumstances. They shape organizations and act within the boundaries of organizations, guided by the rules. This applies to small children playing their imaginary worlds, to teenagers having fun with video games, and also to professionals playing with business

	Foci of Interest				
	I. Theory & Methodology				
	II. Instrumental design				
	III. Research				
	IV. Training & Education				
	V. Entertainment				
	Themes				
	competence	communication	knowledge & skills	management & organization	policy	fun
Areas of application: Reference Systems						
1. Business administration						
2. Public administration						
3. Educational Institutions						
4. Environment						
5. Health care						
6. Human services						
7. Int. relations						
8. Military						
9. Religion						
10. Technology						
11. Human settlements						
12. *Imaginary worlds*						

Table 1: Realm of Gaming & Simulation [18]

games. While trying to defeat the odds, players try to gain competence, power, and influence. Actors constitute systems of interactions. They draw upon rules and resources while functioning in organizations. In a soccer game for example, the players, the coaches and the referees are the main actors. They interact according to the rules. Their resources are the ball, the soccer field, the stadium, etc. While confirming each other's roles, and making use of the rules and resources, they produce and reproduce the social system concerned (that is, a particular match). By changing the interactions, the rules and/or the resources, they either transform the system or produce a completely new one. They may switch for example to rugby. They can also change position, from inside participant (actor) to outside observer. In this case, they can question the motives and effectiveness of the actors; the rules as applied by the referee; and/or the quality of the resources. That could help to develop strategies for the maintenance or transformation of the social system that is, the game. Underlying this approach to social systems is a notion about terms such as, autopoiesis (self-reproduction), self-reference, and reflexivity (self-awareness) [17].

The communities of gamers such as ISAGA, SAGSET, ABSEL, NASAGA, JASAG, SAGSAGA, DiGRA, etc. represent different gaming cultures. All are involved in pursuing gaming and simulation for research, education and training. All are focussed on learning from and through gaming. Therefore, they need a

common framework for advancing the field, and to understand each other and communicate effectively about what they are doing, taking into account that scholars and practitioners usually operate within a small subset of Table 1.

Due to the great variety of appearances of games and simulations we need to develop a common language, a trans-disciplinary theory of knowledge to be able to develop a meta-discipline. Barth [2] offers an interesting and fruitful approach to that debate. From the perspective of an anthropology of knowledge, he distinguishes three faces of knowledge:
• a substantive corpus of assertions,
• a range of media of representation, and
• a social organization.
They interrelate in particular ways in different traditions of knowledge, and they generate tradition-specific criteria for validity of knowledge-about-the-world. Knowledge, according to Barth, is "a way to understand major aspects of the world, ways to think and feel about the world, and ways to act on it" [2, p4]. Every game is being designed with in mind: a substantive corpus of assertions (rules and resour-ces), a range of media of representation (rules), and a social organization (actors). These faces interrelate in particular ways in different games.

I will paraphrase Barth's views to make them suitable for gaming. Any game represents a tradition of knowledge. It contains assertions and ideas about aspects of the world. This tradition must be instantiated and communicated in one or several media as a series of partial representations in the form of words, concrete symbols, pointing gestures, actions. It is distributed, communicated, employed and transmitted within a series of instituted social relations. These three aspects of knowledge determine, constrain and enable one another. They are embedded in the play element of culture. To

paraphrase Chi-Yue Chiu's comments on Barth's paper, "during a game session, meaning is constructed, transmitted and applied in social transactions. These symbolic actions take place among socially situated persons with particular communicative intentions" [4, p.11]. Within such a setting, the interplay between tacit and explicit knowing will bring forward a certain type of cognitivity. Learning has only taken place, if as a result of playing a game, increased cognitivity enhances our understanding of (parts of) the world, our thinking and feeling about the world, and our ways of acting on it.

Media of representation and communication run in the field of gaming and simulation from game boards, paper and pencil, snow cards, and computer interfaces vis-à-vis underlying mathematical models, to web-based multi-media configurations. Different branches of academic knowledge use different media of representation. Mathematical knowledge uses computations, gross anatomy series of atlases, microbiology its technical laboratory equipment and chemical models, geography atlases and scale models, and so on. Barth points out that these representations shape both thought and action and thus the practices of professionals in different disciplines. They shape the style of the game design when designers choose the media or representation in the game. By selecting certain media of representation, game designers construct imagery that affects the learning that is, the construction of new knowledge. In addition to and distinguished from the modes of representation, the organizational face of knowledge determines criteria of validity, trajectories of evolving knowledge resulting from the negotiation of meaning, and forms of coherence that govern knowledge. The organizational face of knowledge in a game results from the systems of interactions between the actors, which are governed

by the rules, and constrained the available resources.

Considering the organizational face of knowledge, the idea of duality of structure is relevant. "Inter-action is constituted by and in the conduct of subjects; structuration, as the reproduction of practices, refers abstractly to the dynamic process whereby structures come into being. ...Social structure is both constituted by human agency and is at the same time the *medium* of this constitution" [8].

Actors constitute systems of interactions. They draw upon rules and resources while functioning in organizations. By changing the interactions, the rules and/or the resources, actors either transform the system or produce a completely new one. Because of the duality of structure, they can also change position, from inside participant (actor) to outside observer. That could help to develop strategies for the maintenance or transformation of the social system, in our case, the game. Such a transformation will impact on all three faces of knowledge, on the substantive corpus of assertions, the range of media of representation, and the social organization. Such transformations are beyond the scope of rigid rule games, which presume that participants play by the rules without questioning them.

About learning

All education and training aim at developing expertise. Five interacting key elements are: meta-cognitive skills, learning skills, thinking skills, knowledge and motivation [28]. These five key elements should be seen from the viewpoint of individuals operating in so-called contextualized environments such as in games. The controversial nature of current learning theories offers an interesting view on the potentials of and problems with interactive learning environments. I will highlight two competing frameworks, the acquisition metaphor versus the interaction metaphor. They implicitly play a key role in understanding the

meaning of the five elements pointed out by Sternberg [29]. Although Sfard [27] uses the participation metaphor, in this paper I prefer to use the concept of interaction. I will not elaborate on epistemological and ontological foundations of both learning metaphors.

Sfard has pointed out that since the time of Piaget and Vygotsky, the growth of knowledge in the process of learning has been studied in terms of concept development. The learner is a person who constructs and negotiates meaning. Sfard states: "The language of "knowledge acquisition" and "concept development" makes us think about the human mind as a container to be filled with certain materials and about the learner as becoming an owner of these materials" [27, p5].

The following terms fit into the framework of the acquisition metaphor: knowledge, concepts, conception, notion, misconception, meaning, sense, schema, fact, representation, material, content. Terms that denote the action to become owner of knowledge are: reception, acquisition, construction, internalisation, development, accumulation, grasp. Acquired knowledge, like any other commodity, may be applied, transferred and shared with others. The acquisition metaphor is strongly entrenched in the rationalist tradition in science. In this tradition, knowledge is composed of abstract, context-independent, formally interconnected domain-specific concepts [15].

The interaction metaphor has recently started to develop. Rogoff [26] speaks of learning as an apprenticeship in thinking. Sfard signals an extensive change by the fact that, although referring to learning, recent literature does not mention "concept" or "knowledge". They have been replaced with the noun "knowing", which indicates action. She states: "The talk about states has been replaced with attention to activities. The image of learning that emerges from this linguistic turn, the permanence of having (*knowledge*) gives way to the constant flux of doing"

[27, p6].

The new set of key words is "practice", "discourse" and "communication". They suggest that the learner is a person interested in participation in certain kinds of activities rather than in accumulating private possessions. From the viewpoint of the interaction metaphor, learners contribute to the existence and functioning of a community of practitioners [27]. Greeno [9] defines learning as "improved participation in interactive systems."

The dilemma of this metaphor is phrased in the question:" How are learners able to build for themselves concepts that seem fully congruent with those of others?" This simple question is difficult to answer. It is out of the scope of this paper to elaborate on it. (More information, see [15, 16, 17, 19,21]).

Considering the wide variety of games, and areas of application, the gaming landscape is so diverse that investigating questions about learning cannot yet be addressed straightforwardly. Even if games have similar forms, their purpose, subject matter, content, context of use, and intended audiences, may be very different. Questions of learning and knowing through gaming and simulation are not being addressed adequately as long as assessments and evaluations, debriefing included, are limited to the specific game or simulation in hand. Therefore, I have made the following proposition: *Studying interactive learning through gaming and simulation can only be productive if a suitable epistemology is available to connect learning through specific games with learning through gaming [21]*. The basic question concerns the kinds of learning and knowing that emerge while playing a game, any game. Such learning and knowing should be linked to the *play element of culture*. It should as well pay attention to the specific learning environments provided. A comprehensive theory about learning and knowing through gaming and simulation is not yet available due to competing epistemologies. Moreover, the community of gamers seems to be more interested in the instrumentality of games that is, in methods and techniques of game design and use. Methodological questions have not yet drawn wide attention.

STEERING IN SOCIAL SYSTEMS

Interactive learning environments based on simulation models, view the social system as allopoietic or artificial. The behaviour of such a system is controlled by the function it fulfils in the larger social system and by the input it receives from its environment. It is viewed as an instrument, produced and used by another external system to reach its goals [24].

Interactive learning environments based on the gaming, particularly free-form gaming, view the system as autopoietic. It is not structured by external information it receives, but by its system of interactions. Therefore, the (meta-)cognitive structures used by the system are constructed (produced) by the system itself. Maturana and Varela too reject the concept of knowledge as a representation or image of some external reality. Cognitive interaction between the system and its environment is restricted to triggering of internal processes by external perturbations [10]. Evidently in social systems these internal processes are enacted by the actors, which produce a system of interactions. They form the autopoietic (self-reproducing) forces within the system.

From epistemological point of view, I see a strong link on the one hand between learning according to the acquisition metaphor, allopoietic steering and simulation, and on the other hand between learning according to the interaction metaphor, autopoietic steering and gaming.

Designers of the interactive learning environments have the option to balance the acquisition and interactive metaphor. They can offer learners the possibility for learning concerning terms such as practice, discourse, communication, interaction, and improved participation in interactive systems. They should however keep in mind the limitations of rule-based simulations and games with respect to the self-reproduction of the subsystems of rules and resources. That restriction hampers the actors to distance themselves from the rules and resources to devise strategies for their transformation. That option would provide the conditions for interactive learning environments to become self-organizing [17]. Truly self-organizing learning environments stress that the ideal of objectivity, that is, universal knowledge, and knowledge as accumulation, needs to be replaced with inter-subjective agreement within a historic community. This notion is the quintessence of the interaction metaphor.

CLASSIFICATIONS

In this section I will select several classifications of games to show that different approaches give meaning to different characteristics. For a start, a simple definition is presented. A game is a contest (play) among adversaries (players) operating under constraints (rules) for an objective (winning, victory or payoff) [1].

Ellington *et al*. [6] identify two essential features for describing games. The exercise, or activity, must involve overt competition between individuals or teams, or between the individuals or teams, which are competing against "nature". In addition, the exercise must have rules. The players must operate under a set of guidelines specific to the particular game. They relate three related sets of exercises, namely, games, simulations and case studies that partly overlap each other. Based on this scheme, they distinguish the following three pure types and four hybrids:

* pure games
* pure simulations
* pure case studies
* simulation games
* simulated case studies
* games used as case studies
* simulation games used as case studies.

Ellington *et al* then classify games according to their format, the means through which the game is presented, see Table 2.

Caillois [5] developed a classification of games, based on two dimensions. The first one refers to four categories: AGON, ALEA, MIMICRY and ILINX, the second one to the rule base: PAIDA and LUDUS, see Table 3. MIMICRY and ILINX reflect the playfulness of activities, while AGON and ALEA represent mainly gamesmanship, see Table 3.

Shubik [28] has developed the following scheme, see Table 4.

Psychomotor skill games	(Computer-based) manual games
field games	soccer, baseball, golf, tennis, etc.
table games	snooker, pool, etc.
simple manual games	charades, crossword, puzzles, etc.
card games	bridge etc.
board games	chess, go, monopoly, etc.
device-based games	Rubik's Cube, etc

Table 2.: Classification of games according to format (adapted from Ellington et al. [6])

PAIDA ‹––› LUDUS		
(freedom, free improvisation		(rules & conventions)
AGON - races, wrestling, –– soccer, chess		
(competition: equal probability of success)		
ALEA - counting rhymes ––– lottery		
(luck: players cannot exert any control over outcomes)		
MIMICRY - childish imitations –––––––––––––––––––––––––- ––––––––––––––––––––– theatre		
(mask: players pretending to be someone else)		
ILINX - merry go round –– acrobatics		
(vertigo: attempts to disrupt regular perception patterns)		

Table 3: Classification of games (adapted from Caillois [5])

Table 4: Taxonomy of games (adapted from Shubik [28]).

Use	From ‒› rigid-rule games:		To free-form games
	manual games	computer-based games	
Training			
Teaching			
Operational: • policy formation • dress rehearsels • sensitivity analysis			
Experimentation: • theory generation • theory validation			
Futures Studies (structural brain syorming)			

These classifications emphasize the functionality and/or goals of a game. Different gaming formats might have similar functions. Such classifications do not provide valuable information about their architecture, which is a precondition for understanding their differences and commonalities of design. In order to present principles underlying the architecture of games and simulations the f o l l o w i n g b a s i c form is presented. It is based upon key characteristics of human organisations, and in more general terms, of social systems.

A GENERIC GAMING AND SIMULATION MODEL

Games represent social systems in all their variety. Although games and simulations can be very different as regards their format and content, they have in common the following basic form of social systems [15]. Their architecture is defined by three interconnected building blocks:

• Actors
• Rules
• Resources.

In each game, the players (actors) interact with one another, while applying rules, and utilizing resources. General management games model companies that

are operating in the same market. The acting teams apply similar rules and apply similar resources to compete with one another. Urban management games, which aim at enhancing policy development and urban planning, can be envisioned to include actors that represent different interests and positions in the political arena. The actors may apply various rules, while having different resources available. On the basis of this generic model, numerous configurations of games and simulations can be described and envisioned.

Marshev and Popov [23] developed a semiotic theory of gaming.
They distinguish three viewpoints:
- syntax of a game - arrangement of elements and rules of a game;
- semantics of a game - interpretation and meaning of elements of a game;
- pragmatics of a game - design and use of a game.

By integrating both viewpoints, the emerging framework enables to characterize games and simulation in great detail [16]. It enhances the understanding of commonalities and differences between the design of specific games and simulations.

A TAXONOMY TO CLASSIFY GAMES
Combining social systems theory [13, 14, 17] with semiotic theory of gaming [23] offers an integrated framework for understanding the basic elements of gaming. Each game with its specific structure of actors, rules, and resources is a language with its particular syntax, semantics and pragmatics. As a language it conveys and produces meaning and context dependent, situational knowledge. It also shapes the system of interactions and consequently the internal organization of the game. The purpose

of a game can be autotelic or allotelic. It is autotelic if the players have the freedom to act according to own goals and sources of motivation. They are free from dependence on authority and be allowed to reason for themselves [25, p.18]. Knowing is gained mainly through interacting. A game is allotelic if the players act according to outside goals and sources of motivation, embedded in the rules. Their activities represent means to some end. They are mainly recipient of information. They depend on the authority of the game facilitator and are forced to reason according to the knowledge provided by the game manuals. Knowledge is mainly gained through acquisition.

SYNTAX
The syntax defines the grammatical arrangement of a game.

Actors
Players: Participants of the social system. The number of people participating in the game can play multiple roles. They shape the social organisation.
The number of places for actors: actors are capable of carrying out activities in the game. They can be individual players or teams.

Rules
Manipulation set of the game: this subset of rules defines the manipulations, the possible moves with the pieces, as transformations of the positions.
A set of game positions: the arrangement of the set of pieces at a certain moment in time defines their position in the scheme of the game space. Rules describe the initial subset of positions. Dependent on the type of game, they may also define the intermediate and final subset of positions, including the rules for finishing the game.

Both the game manipulation set and the set of game positions are related to the media of representation.

Resources

Set of pieces to play with: these pieces symbolize a real or imaginary world.

Game space: the pieces and the way they interrelate are defined by the rules. The pieces are allocated in the game space via an initial setting and they change during the process of playing. The set of places is the game space, and the set of places with its structure: the arrangement is the scheme of the game space. The configuration of the game space depends on the substantive corpus of assertions, made by the designer.

Valuation set: assessment and valuation of initial, intermediate and final position for each player and team.

SEMANTICS

The way a game corresponds with our understanding, with our conceptual frames - the general interpretation - is called the semantics.

Actors

Roles: the 'role' is a key term in the semantics of a game. It provides a context for interpreting a game space. It offers a lens and a perspective for interpreting and acting. The role structure gives shape to the theoretical (formal) structure of a social system. Actors take those roles and express them according to formal and informal rules.

Actors take different roles according to the rules. They have available pieces of different types with the positions taken by these pieces. They can make a sequence of moves with these pieces while trying to achieve their goals. They have access to various sorts of information about the game, and during the game.

Rules

Relationships between roles: a game is a symbolic representation of the actor structure of the social system. The relationships show the communication and coordination structure of the social organisation. Who is allowed to interact with whom?

Cultural, socio-economic situations: the placement of pieces according to the scheme of the game space is the position at one moment in time. It is understood as a particular state of the social system. Through that state a particular cultural and socio-economic situation is expressed.

Places for resource allocation: during the game pieces are allocated in the game space. This allocation, from its initial position, can be well-defined by the rules, or is for the players to decide. Initial and intermediate positions are evaluated to make subsequent moves.

Resources

Resources: the symbolic meaning of the pieces in the

game space, referring to reality.

PRAGMATICS

The methodology and methods for designing, preparing, conducting and assessing a game comprise the pragmatics of a game. The design process includes the specific arrangement of the rules, the scheme of the game space, the game positions, the actors, their roles, and their correspondence with a symbolic world. During the preparations, the game operators or facilitators, the players, and the teams are allocated. The materials for the game, the facilities and equipment are prepared. Conducting a game starts with the instructions to the players and proceeds by assisting, guiding the process, and performing an extensive debriefing. The pragmatics are embedded in the **macro-cycle of a game session** *[19].*

Actors

Allopoietic vs. autopoietic steering: if the goals of the game are external, as usually happens in professional training, its steering is allopoietic, emphasizing the training of skills. If the goals are autotelic, steering is autopoietic. The resulting game is self-organizing.

Knowledge as acquisition, as interaction: if knowledge transfer is the primary goal, in terms of concepts, cognitive maps etc., the minds of the players are viewed as mental containers. That knowledge needs to be acquired. If knowledge is the result of negotiating meaning between the players, knowledge is the consequence of the system of interactions.

Rules

The team of facilitators: the facilitators are the referees or coaches who act according to the rules.

Format: the format defines the procedure for conducting the game. Games can be open, so-called free-form, or closed, so-called rigid-rule games.

Assessment function: assessing a game, after its final position has been reached, starts with the debriefing and may continue with a thorough evaluation of the subsequent positions of the scheme of the game space, the moves the actors have made and the motives for making those moves.

Resources

Materials, paraphernalia: the players receive instruction material, paraphernalia. They may use equipment such as computers. For conducting games appropriate facilities are needed.

Table 5 wraps up this taxonomy, including key aspects related to the specifications of design.

CLASSIFICATION OF SIMULATION/GAMES

Based on the building blocks of social systems, from the perspective of model building, it is possible to distinguish between gaming and simulation, particularly computer simulation of social systems. If no actors are involved, two options of simulation are available for modelling rules and resources [14]:

  • pure simulation of resource processes with for example input-output models. Rules are rudimentary.
  • via rule-based systems, simulation of information feedback systems such as in use with System Dynamics (see Table 6).

If resources are not explicitly defined, only actors and rules are involved. Actors and rigid-rules are the ingredients of theatre. Actors and free-rules shape role-plays (see Table 7).

If actors, rules and resources are explicitly defined, then we are in the domain of gaming (see Table 8).

With the framework depicted in Table 5, the variety of entertainment, educational, experimental, research, operational, manual, computer-based, rigid rule and free-form games can be coherently described both for

Table 5: Framework for a taxonomy of gaming (adjusted from [16])

Design specifications	1. Client 2. Purpose 3. Subject matter 4. Intended audience 5. Context of use		
Social System	**Syntax**	**Semantics**	**Pragmatics**
Actors	Players Number of game places	Roles	Allopoietic vs. Autopoietic Steering. Knowledge as acquisition as interaction.
Rules	Game manipulation set Set of game positions Final game positions Evaluation functions	Relationships between roles Cultural, socio-economic situations Evaluation of places for resource allocation, and position within team of players	Team of game facilitators Format: rigid-rule vs. free-form Assessment functions
Resources	Set of pieces Game space	Resources Set of places	Paraphernalia Equipment Facilities

newcomers, practitioners and researchers. From semiotic viewpoint the difference between a computer-based and manual game, such as a board game, is not fundamental. From the perspective of

	RULES
	rule-driven <————————————————> open
RESOURCES	feedback models——————input-output models

Table 6: Simulation with no actors involved

	RULES
	rule-driven <————————————————> open
ACTORS	Theatre———————————————— role play

Table 7: Gaming with no explicit resources

	RULES
	rule-driven <————————————————> open
ACTORS	Rigid rule games——behavioural simulations——
RESOURCES	free form games

Table 8: Fully-fledged gaming

media of representation they make a difference. This is for example the case with the computer-based and board game versions of PERFORM [13, 20]. The image of the games pieces and the game space, and therefore their gaming experience are different. Their symbolic meaning in terms of the substantive corpus of assertions remains the same.

The level of abstraction of the taxonomy presented in Table 5 allows a detailed description of games, with all their variety in appearances. It connects design-in-the-small with design-in-the-large [22].

The taxonomy has been used recently to classify two similar but different games in an arbitration case about intellectual ownership, in designing new games, and in deconstructing existing games to understand their basic architecture. Among professionals and students it has enhanced considerably the mutual understanding of the architecture of the games

involved.

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5.MAKING AND BREAKING GAMES:
A TYPOLOGY OF RULES

Aki Järvinen

ABSTRACT

The paper introduces a particular approach to the study of rules. Different aspects of rules are studied: what are their functions, what do rules govern, what is a ruleset, and what are the elements in a game that rules govern. Five elements are discussed: components (pieces/player characters/etc.), procedures associated with components (moving them or manipulating them in other ways), environments that define the physical boundaries of a game, theme that gives the game a subject matter, and interface which is used to access the game. The author introduces five types of rules, each type relating to a game element. The typology provides a better understanding of rules as a fundamental structure of games, and it can also be applied as a tool for analysing individual games' structure and ruleset.

KEYWORDS
Rules, game environment, game mechanics, game rhetorics, gameplay

INTRODUCTION

The question "What is a game?" has been answered numerous times. Often the answer has been produced in the form of a multi-faceted definition. E.g., Caillois [3], Avedon & Sutton-Smith [1], Crawford [7], and Costikyan [6] have suggested definitions. These and other efforts have been reviewed thoroughly by games scholar Jesper Juul [9].

My interest is not to provide another definition, but to acknowledge the previous ones and lead on from there, onto smaller details. Therefore, we will opt to pose a set of questions from a slightly different angle: "What are games made of?" and "What is in a game?"

What has been lacking from the field of game studies are systematic definitions and analysis of rules, at least outside of mathematical game theory, which is mainly interested in how different outcomes of a game are reached based on the player's decisions (see, e.g. [3]). Any of the above-mentioned theories do not include detailed studies of rules. This paper suggests a particular approach to the study of rules. As the title suggests: how rules *make* a game, and how games can be deconstructed, *broken* down by analysing rules.

GAMES AS STATE MACHINES

An important notion in this discussion is understanding games as dynamic systems that produce various states of affairs during their operation. In practice: the score changes, and/or the challenges take different shapes, and so on. Games are 'state machines'. Juul states, referring to system theorists, that it is the rules that provide a state machine, "a system that can be in different states, it contains input and output functions and definitions of what state and what input will lead to what following state" [9]. When playing a game, the player interacts with the state machine. I will use the term 'game-system' when referring to this systemic nature of games.

An individual game state is a particular state of affairs in the game that the player(s) play within or work towards changing. Often games encourage players to do this by stating different goals and presenting challenges. For instance, individual states change in *Tetris* with each tetramino block that appears, presenting a renewed challenge for the player. Each different position of the tetramino can be seen as an individual game state. The game proceeds in light of the current game state and its resolution. When the player has dealt with the tetramino, the states related to that particular tetramino are resolved, and another state follows.

Game states are always temporary, but their duration varies across different games and genres. Their relation to each other can also be different. Either the states follow each other in temporal hierarchy, or all states are equal. In the first case, the following state is always influenced by the result of the previous one. For instance, the new state might present a more difficult challenge, if the previous one was dealt with successfully. If all the states within a game are equal, their relations are usually evaluated after a pre-determined period of time has passed, or a

number of rounds are completed. This is true of most sports games, such as soccer, ice hockey, basketball, baseball, and so on. In 'sudden death' type of situations, the end of the of game, and thus the victory condition, is tied to one change of particular game state. This is the case in simple digital games like *Pong* as well, where missing the ball causes the unfavourable change of game state. This state is possibly a terminal one, i.e. results in 'game over'.

There are also game states of different degree and nature. In Chess, and *Tetris*, individual states are easily distinguishable from each other – a completed move always introduces a new state. Then again, in soccer, there are major and minor game states: major states have to do with the scoreline changing, i.e. when a goal is scored, whereas the changes in possession of the ball are considered minor states as are the positions of an individual tetramino in Tetris. This means that both Tetris and soccer players spend most of the game dealing with minor game states.

   In any case, in both examples, the players' general task is to work towards changing the game state. Rules govern both the game-system's and the players' behavior from one state to another.

WHAT ARE RULES, ANYWAY?

'Every game *is* its rules',
for they are what define it. [12]

David Parlett's statement provides a simple answer. However, it is obvious that there are other, more or less minor elements to games than rules. But are there elements that function outside the rules, or have any meaning outside the rules?

The answer is yes and no. There are certain traits having to do with the so-called theme of the game that are not directly rule-bound. These elements could be replaced with others and the game would not change, at least in formal sense: *Star Wars Chess*

is still Chess, albeit with Star Wars characters replacing the traditional pieces. Generally, if such elements in a game, that both function in relation to rules and have meaning in relation to them, are changed, this change results in changes in the gameplay as well. In this way, rules having to do with the theme function on a different layer of a game's formal structure than the pieces and the Chess grid. These elements and layers will be conceptualised later.

Merriam-Webster's Collegiate Online Dictionary defines "rule" as follows:

> 1 a : *a prescribed guide for conduct or action* b : the laws or regulations prescribed by the founder of a religious order for observance by its members
> c : *an accepted procedure, custom, or habit* d (1) : a usually written order or direction made by a court regulating court practice or the action of parties (2) : a legal precept or doctrine e : *a regulation or bylaw governing procedure or controlling conduct*.[1] (Italics by AJ.)

The emphasised phrases are relevant in the context of games. Based on this, my premise is that rules of digital games are accepted and prescribed, and they govern action. This governance adopts the form of procedures that lead to so-called game mechanics, which give birth to the more or less 'guided' player behavior and 'habits'. The definition focuses our attention to the 'conduct' within a game, i.e. how gameplay is circumscribed, and with what elements is this achieved.

Rules are based on principles, i.e. assumptions of what the player can, should, and cannot do: "this is the purpose of the game", "the player is allowed to do this", "the player has to do this", "the player can not do this". These are tied to specific states of the game, which take the form of specific game elements: components, procedures, environments, and interfaces, and the specific challenges they each present.

FUNCTIONS AND
REQUIREMENTS OF RULES

Why do games need rules? First, so that we would have a game that can be played more than once, and so that the game could be communicated to others than the one(s) who invented the game.

Second, games need rules in order to begin, progress, and end. If the rules are not fixed and prescribed, the game will not advance: the game-system will stall on one state of affairs until the rules are negotiated and accepted for good. There should also be a clear definition of when the game will end. Therefore, rule design is about anticipating and mapping all possible states of affairs – states of the state machine – in the game. It is about adding rules, testing them, and after that, possibly removing or modifying them.

Third, rules give games their structure, a particular structure that makes them interesting and provides enjoyment from playing the game. Rules both allow and disallow actions, giving the players at once possibilities but also constraints. Rules define the margin of error that the player can play and test her skills within, and/or they set up the boundaries for performance and expression. As Caillois puts it: "The game consists of the need to find or continue at once

a response *which is free within the limits set by the rules*. This latitude of the player, this margin accorded to his action is essential to the game and partly explains the pleasure which it excites." [3, 6–7.]

Rules are guides in this sense, as mentioned in the definition above – they are guides for dealing with individual game states. The psychologist Mihail Csikszentmihalyi states that "the rules of games are intended to direct psychic energy in patterns that are enjoyable" [7]. Rules confine players' actions into specified procedures, and playing within these boundaries is what makes games (at least potentially) enjoyable.

There are few games that have few rules. Usually a game has a combination of numerous rules, some of which govern everything that takes place, and some that govern a specific situation in the course of the game. Every rule does not have to be consulted or executed each time a game is being played, or between each game state. Rules' meaning and operation are contextual, but not in any other context than the game being played. This combination of different contextual rules in a particular game is called a *ruleset*. It functions as the superstructure that governs the game.

ELEMENTS OF GAMES

A typology of rules has to based on an understanding of what are the elements that rules relate to. Rules do not mean anything by themselves. They need to be assigned to actions that the players are supposed to take, tools used in the process, and the means that the game-system treats player behavior with.

In an individual game, these actions are produced in the interaction between a ruleset, and the *procedures* it defines in relation to game components (both players and objects) within the game *environ-*

ment. These three elements are optionally contextualised with a certain subject matter (quest, conflict, trade, etc.) that provides the game with a *theme*. In digital games, there is often a specialised *interface* that allows the player to access the other elements via procedures, and soforth play the game.

Rules produce each individual possibility and constraint that a game has to offer for its players, and rules are communicated to the players via the internal structure of a game, i.e. the elements. For instance, a wall or a board that bounds the player is an element that, as a part of the game environment, communicates a rule that constrains player movement.

At its core, designing games equals designing rules, or implementing existing rulesets for new games. It is obvious that there are lots of different types of rules: ones governing the number of participants and their interrelations, ones that tell in what succession the game advances, ones that set a point system, ones that take the form of the game environment (board/field/level/world, depending on what kind of game one is playing), etc. A better understanding of different rule types is achieved by defining game elements.
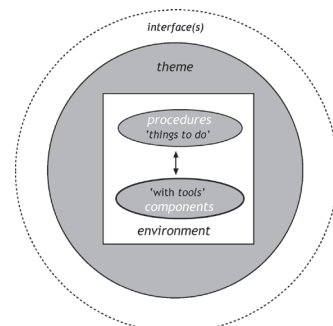

Figure 1. Game elements' relations to each other illustrated.

Figure 1 illustrates on an abstract level how game elements relate to each other and build up a game. As the player invests effort in affecting the outcome and works towards goal(s), she needs to be given something to do, and the tools to do it with. Procedures and components provide these elements, and the game environment provides boundaries for them to be operated within. If there is a theme implemented, it affects both how the environment, procedures and components are put on display and available to the player(s), and which mechanics affect what and with what consequences. Especially with digital games, a specific interface needs to be designed on top of these elements, so that the other elements are accessible to the player.

Star Wars Chess presents a game that uses at least four of the elements: 1) it has components in the form pieces, 2) procedures that state how the components can be moved, and 3) a traditional chess board as the game environment. These three elements are enough to produce the game dynamics of Chess. However, there is also 4) a theme adapted from a popular fiction franchise. The Star Wars license is visible, on one hand, in transforming the traditional pieces into Star Wars characters, but also apparent in how the generic conflict of 'black' and 'white' troops becomes thematised as a war between the 'Empire' and the 'Rebel' forces. Finally, a digital version of the game would require 5) an interface: a mouse, a keyboard or a specialized gaming periperal for enacting procedures.

The five elements are discussed in more detail in what follows.

COMPONENTS

Components are usually represented by objects, or a single object, that the player is able to manipulate in the course of the game. In board games, these objects are usually pieces, cards, credits, etc. In digital games, the objects usually take one of the following forms: a character (from Pac-man and Super Mario to Lara Croft) or a group, a vehicle, a piece (an individual tetraminoe in *Tetris*), a tool (weapon, key, etc.) or a resource (experience or health point, money, energy, etc.).

So, the character or object that the player manipulates is the primary component. We will call it player-object. The *player-object* functions as a representative of the player within the game. It might be a character, a spaceship, a piece, for instance. Player-objects function as the protagonist(s) or they serve to point out the player's success or standing in the game. The players' points and possessions are player-objects, too: money and the houses in *Monopoly*, roads and resource cards in the board game *Settlers of Catan*, the squad of players with certain abilities in a sports game, and furniture, clothes, etc. in *Animal Crossing* (Nintendo 2002).

When the player-object is represented as a character, or simulates the behavior of one, it is relevant to call it a player-character. All games do not have components that function as a representative of the player(s). However, all games have components that the players' actions are directly or indirectly related to. A ball or a dice are this kind of components. These *game-objects* function as antagonists, co-operators, systems, resources, or props in the game. *Tetris* has only game-objects, but the player plays the game in relation to them and the specific procedures and environment that make *Tetris* the game it is. In a game like *SimCity*, the shaping city presents game-object in the shape of a system that simulates the behavior of urban infrastructures. The 'Sim' characters in *The Sims* are game-objects somewhere in between a prop and a system, as they are basically 'moving dolls'. A co-operator type of game-object is either a fellow

human player, or a so-called non-player character (NPC) who behaves according to certain rules implemented with the methods of artificial intelligence (AI).

Components may have different functions and/or values assigned to them. All types of components have rules governing their behavior, but in an individual game, some components usually are defined as more significant than others. The hierarchy of Chess pieces presents one excample. Their meaning is contextual, the context being shaped by other elements of the game, such as game states and theme. In multi-player games where the player competes against others, the player's own components are often player-objects, and the opponent's components are game-objects. Depending on the game and its rules, it might be possible to convert game-objects into player-objects. Gathering resources and objects into an inventory is one example of player means for changing game components' status from game-objects to player-objects.

Core and marginal components

The distinction between player-objects and game-objects serves to explain the player's relation to different components. Another aspect to note is that components are not equal. First, it is possible that components have been assigned different (contextual) values. Second, there are numerous digital games where we have *core* and *marginal* components. Their status is not necessarily fixed but can be made to differ according to individual game states. Marginal component can be made a core component after a certain change in the game state, and vice versa. Often game-objects function as props that have meaning and use regarding some states of the game but less, or even none, in previous or later states.

For instance, *The Legend of Zelda: the Wind Waker*

(Nintendo, 2003) starts on an island where there are numerous game-objects that the players actions relate to: trees, grass, characters, etc. One set of game-object are represented as pigs, and their main function is to teach the player to crawl behind an unsuspecting game-object and grab it to carry around. The 'pig-game-objects' serve as tutorials for a game mechanic that is used for manipulating game-objects, the mechanic being represented as an ability to carry objects around and throw them. After the player has done this and moved on, the momentarily core status of the pig-game-object changes into marginal at best, as the pigs' function transforms into a prop that adds thematic meaning to the game environment.

In similar fashion, at the beginning of a Chess game, a pawn might not seem worth much, but after numerous game states, during the so-called end game, a single pawn might have become extremely valuable, whether it has been transformed into a Queen (as the rules allow) or not. Chess also illustrates the aspect of a game component being connected with the victory and losing conditions of a game: the one who loses her King loses the game. In similar manner, in many digital (and board) games, the losing condition is often connected with the player-object(s): if the player's character perishes or she loses her possessions, the game is over.

The number of components does not have to be fixed: new components with new functions can be introduced to the game based on the player's progression in the game, or her development of skill. Even though components might be modified or added into the game, they may fulfil the same function than components that were removed or abandoned in the game's previous states. Opponents that become gradually more difficult, in a martial arts game for example, present one popular example.

The traits of games discussed above are all examples of how rules are introduced to govern components. Let us conclude by asking a simple question: Why do games have components? There are two reasons, which run parallel to the distinction of player-objects vs. game-objects:

1. Components provide a source of identification for the player, usually in the shape of possessions, resources, and/or representatives (characters/pieces). In other words, player-objects are the reference point for the player's motivation to play the game, and succeed in it. Components might enable certain ways to play the game and achieve its goals, or prevent others.

2. Components provide the player with challenges in the form of adversaries, obstacles, resources to be had, etc. They are potential objects of interaction, tools to play with and against. Game-objects are the reference point for the player's needs and desires, the actions she wants to take in order to influence the course – i.e. the states - of the game. From the perspective of the game-system, components are means to give birth to certain player procedures and game mechanics. Players are encouraged, or enforced, via components and environment constraints to play the game in a specified, rule-bound way.

PROCEDURES

According to E.M. Avedon, game procedures are "specific operations, required courses of action, method of play" [2]. We will define procedures as operations that the game-system makes possible with following purposes: 1) empowering the players with means to play the game, 2) assigning value to the different game states and outcomes by handing out rewards or penalties, and 3) governing the interrelations of components.

Any action either by the player or the game-system, if allowed and encouraged in the rules, constitutes a procedure. Procedures are, however, closely related to another gameplay pheneomena, i.e. game mechanics. When players take procedures that combine with other game elements, and these combinations and their respective success criteria are specified in the rules, they help the player to advance towards the goal (or goals) of the game. This is usually due to a change in the game state that produces a reward in one form or another (such as gaining points or resources).

It usually takes game-specific knowledge (understanding the rules, specific skill, etc.) to turn a procedure succesfully into a mechanic, i.e. to combine a procedure into a specified combination of other elements. Moreover, often the combination has to be achieved in a specified way (with certain components, in specified time or tempo, sequence, location, etc.).

Let us look into examples of procedures: In *Monopoly*, players roll the dice one by one. This is a procedure, which, when combined with moving on the board (the game environment), becomes a movement mechanic particular to *Monopoly* and various other board games. Another procedure in *Monopoly* is carried out when a player lands on a specific chance card square: the player has to pick up a card which potentially changes the game state by handing out a procedure usually in the form of a reward or a penalty. If the player ends up in on a property owned by another player, she has to pay her rent according to the rules. The two last instances present procedures that do not directly originate form the player, but are imposed on the player by the game system, as it operates according to what the rules define regarding a particular game state.

Again, why do games need procedures? The answer is that procedures start up the game and keep it going; they assign the player into an active role as participant in the game. Through procedures, the players can invest their effort in the game. Components are tools that are used in making these investments. These investments turn out favourably for a player if she is able to combine procedures into other game elements in a way that, first, is required in light of the game's goals, and second, accepted in the rules. These are the preconditions of employing game mechanics, i.e. playing the game.

ENVIRONMENTS

Game environments provide the space for components and procedures: the physical constraints of gameplay. Components reside within the game environment or are introduced there, and in case of a specific game environment (such as a board), often procedures and mechanics are enacted in relation to it.

One particular characteristics of digital games rises namely from their need of a specific environment. All games need to have at least components and procedures, but the environment does not always need to be specific. This is true with numerous card and dice games. With digital games the game environment is a fundamental aspect of the game and very specific to each individual game. Moreover, it presupposes a specific interface. For example, the Solitaire in Windows OS is played with familiar components and procedures but within a specific setting, i.e. a game environment represented on the screen and accessed via the interface.

Digital game environments can be broadly classified into the two following types:

1. Boards/fields: These are either static individual environments that are used to confine the interaction of components and procedures (*Pac-Man, Tetris*, so-called maps in *Unreal Tournament* etc., arenas and fields in sports games), or ones which provide the basis for adding components (*Civilization*).

2. World(s): Often these kinds of environments are divided into parts (many adventure games such as the *Metroid* series) or levels, but game-worlds also exist as seamless, simulated eco-systems or urban environments (the online worlds of MMORPGs, the 'Liberty City' in *Grand Theft Auto III*).

Usually these environments are designed according to certain principles that guide, and confine, the player into certain paths, events, and atmosphere within the environment. These principles are used to communicate environment rules. Forms of spatial organisation (see [5]) are used to create the paths, which allow and constrain movement. They function as the rules that govern the game environment. The more abstract the game is, the more visible the spatial organisation is: examples include boards games with circular or linear paths, and also other forms that adapt to games, such as grids and mazes. With digital games' level or world design, architectonic types and expressive forms (see [11]) are used in communicating the theme of the game: archetypal settings such as castles, planet surfaces, space stations, industry complexes, dungeons, urban streets, etc.

THEMES

Most digital games have an element called 'theme'. Game theme is the subject matter that is used in contextualising the ruleset and the player procedures and mechanics that it allows. Game theme provides a meaningful context for everything that takes place in the game. If there is no specific theme, as in abstract games, the game's rules replace the theme element (as in Chess, Poker, lottery games, sports, etc.).

Usually themes in board and digital games employ conventions of popular fiction or sports genres. The science fiction setting of *Metroid*, the horror in *Silent Hill*, urban crime in *Grand Theft Auto*, the fantasy of *Zelda*, 1960s agent fiction of *No One Lives Forever*, espionage and anti-terrorism of the Tom Clancy games (from *Rainbow Six* to *Splinter Cell*), domestic neighbourhood life in *The Sims*, rollerskating and graffiti in *Jet Set Radio*. These are all examples of how a specific game theme is used in a popular digital game series.

A game theme formally consists of how the underlying game components and environments are contextualised by specific means and styles of representation and rhetoric. It consists of a setting (era, location) and a motivational psychological element, such as conflict. Game theme materialises in the representation, and possible simulation (modelling of behavior) of game components, procedures, mechanics, and environments. To give an example: a psychological game theme like 'betrayal' would probably require that the components are characters, and the procedures govern their social interaction, formalising such feelings as trust and hate into game mechanics.

Theme can be used to 'disguise' familiar game mechanics, i.e. combinations of components and procedures, into new forms. Even though theme or technology between two games may be different, there might exist similar or even identical mechanics beneath. This becomes apparent when comparing two games or game series: for instance *Civilization* the board game, which simulates diplomacy, war and trade in a historical context, versus *Master of Orion* (a game series played on a personal computer), which offers rather similar gameplay but in the context of an intergalactic science fiction theme, and complemented with simulational elements enabled by the fact that computer functions as the game technology.

After employing one or numerous game mechanics, the most visible layer of the game theme emerges from the audiovisual style that is chosen: In a fighting game, if the fighters are represented as robots according to the *mecha* tradition of Japanese popular culture (like in numerous games, such as the *Zone of Enders* series), instead of human martial arts experts (as in the *Virtua Fighter* or *Tekken* series), the game ends up somewhat different in flavour due to the difference in themes. For instance, these two different themes quite possibly require different implementations of combat and weapon mechanics. These thematic observations point out how rhetorics function in games.

The game theme is also embodied in the literal and verbal rhetoric of the game, i.e. what names and descriptions are given to actions that take place in the game. This rhetoric is an element that is used in creating the 'meaningful context' that the game theme provides. Also, the theme can be subordinated to an over-arching narrative that dictates the progress in the game via characters, challenges, worlds, etc., and through the different environments, components, and procedures employed in them. Therefore, theme can be used to maintain the diegetic coherence of the game. It also produces potentially different audience interpretations and expectations, which can be motivated not only by actions related to the goals and purposes of the game, but also by theme-related characters and conflicts (see [10]).

INTERFACE
On a very general level, there exists an interface to any kind of game. Cards, tokens, boards are all accessed or used to access a game or take part in it. In physical games, such as many sports games, one's physical abilities function as an 'interface' to the game.

However, we'll focus the attention to specific interfaces that are built into digital games. There, the interface is the reference point of players' attention on the physical layer of the game. This means that when playing digital games, the interface is constantly present as a part of the the player experience. Therefore it can be used – deliberately or undeliberately – in increasing the difficulty of a particular game, or more generally, emphasizing interface mastery in player procedures. The more complex the interface, the less visible are the game mechanics, for instance.

The specific design and integration of such interfaces are one of the particular traits of digital games. Whereas in other kinds of games it is usually the components and procedures that are used directly to access the game and employ the required mechanics, digital games add a specific interface to mediate and govern this process. Interface functions as both the gateway and the gatekeeper to playing digital games. As the interface is the only way to enact procedures and thus mechanics in the game, it gets emphasized to some degree in all digital games. Learning how to play digital game presupposes learning how to use the interface, which means that interface becomes part of the game's rules.

THE FIVE RULE TYPES
Now that we have covered the basic game elements, it is time to construct a rule typology based on them. There are five types of rules. Thw first two types are mandatory for any kind of game:

1. Rules that govern game components by stating their number, status, value, etc. Also, component functions, i.e. roles within a mechanism, are specified.

2. Rules that govern procedures' relation to other elements, i.e. define allowed mechanics and their consequences.

3. Rules that define game environment(s): the physical boundaries of components and procedures.

4. Rules that dictate how game theme is implemented.

5. Rules that define how the interface is used to enact procedures and mechanics within the game environment, complemented with rules about providing the player information about her progress.

RULES IN DIFFERENT LAYERS
The figure below illustrates the five-fold typology of rules as an expanding half-circle. The two mandatory rule types make up the core, and the remaining three are presented as layers that are optionally added on top of the core layer. The need for a specific interface depends on the technology with which the game is organised.
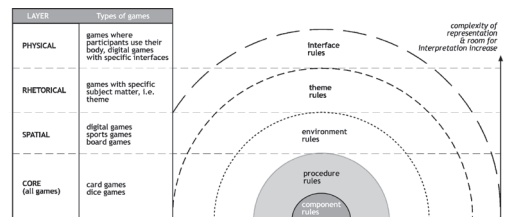
Figure 2. The rule types in relation to each other, and the layers that different player and game-system actions refer to during a game.

As rules govern the player, they govern her relation to the game-system. This is conceptualised as the four layers – physical, rhetorical, spatial, core – at which (one or several) the player's attention is focused at any time during the game.

Component and procedure rules make up the core of a game. They are mandatory for any type of game: there can not be a game without players having par-

ticular means to play, and rules conducting these actions and assigning values to their execution. Card games and dice games are types of games that do not necessarily need the other layers the player remains on the core layer. They consist of components (dices, cards) and procedures (throws, turns, rounds, raising stakes, etc.).

The spatial layer of rules consists of the limitations set by the game environment. Any game that assigns its components and procedures to be operated within a specifically crafted environment implements this layer on top of the core. Card and dice games do not necessarily need a specific *spatial* layer, as the players focus on components and procedures.

The rhetorical layer has the theme rules. This layer is optional in any type of game, but often highly necessary, especially regarding non-abstract games. As the layers of rules increase, from core up, so increases the degree that the actions within the game are open to informal interpretations, i.e. such interpretations that are not directly referred to or governed by the rules. Implementing a theme, and soforth the rhetorical layer, to a particular game means taking advantage of methods (narrative, simulation, representation) that produce meaning on top of the formal structure of the game.

Finally, in digital games interfaces are prominent and specialised in nature. Interface constitutes the physical layer of rules: if the player enacts procedures via a specific interface, she is attached to the physical layer and bound by its rules.

WHAT MAKES A GAME DIFFERENT FROM ANOTHER?

The answer lies in analysing game elements and the rules governing them. The five game elements and the rule types introduced here help us to understand the particular nature of different games. This becomes evident, when the elements and their specific implementation are analysed. For instance, we realise that the characteristics of so-called 'rhythm *games*' *(Parappa the Rapper*, *Space Channel 5*, etc.) are based on their particular ways to employ procedures based on rhythm and music. In the case of the popular *Parappa* series, there is a cartoonesque rap theme at work.

Then again, RPGs emphasise types of procedures and mechanics that are based on narration and performance, or evaluated by criteria appropriate to them, and governed by the game master. Games such as *Civilization* and Poker emphasise manipulation of components (often in the representational form of handling resources) via specific mechanics, which usually means that their tempo is quite different when compared to the rhythm games mentioned above. Many digital games emphasize skill in interface-bound procedures: e.g., skateboarding games where theme-related tricks are mapped into combinations of button presses, i.e. interface functionalities. Digital games also enable automated procedures.

There is no room to put this the typology into practice as an analysis model here, but as the examples used have illustrated, basically any kind of game can be deconstructed into the elements discussed. This serves distinguishing the particular rule types employed in a game, which serves to point out general layers of emphasis regarding the gameplay a game produces. Moreover, analysing the player procedures, and how they become game mechanics, sheds light on the players' relationship to the formal structure of a game and its different layers.

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6.IN SEARCH OF A "FIFTH DIMENSION"

Maaike Lauwaert

ABSTRACT

The work Les Jeux et les Hommes (1958) by Roger Caillois [1] may help us to get a firmer grip on the actual nature of digital games. Caillois identified four dimensions of games and playing: agôn (competition), alea (chance), mimicry (simulation), and ilinx (vertigo). In light of the new culture of digital games, this paper argues the need for adding another dimension to Caillois four dimensions. This fifth dimension will be labelled repens or sequentially embedded surprise and it will enable us to describe, analyse, and understand the structure and complexities of the more recent digital games more profoundly.

KEYWORDS

Theory on games and playing, Roger Caillois, dimensions and characteristics of computer games, repens

INTRODUCTION

For the last two years I have been studying computer games from all kinds of different angles. One of the major focus points of my past research however, has been traditional theory on games and playing, like the one by Johan Huizinga (*Homo Ludens*, 1938) [3], Roger Caillois (*Les Jeux et les Hommes*, 1958) [1], and Brian Sutton-Smith (e.g. *The Ambiguity of Play*, 1997) [7]. The central question throughout the studying of these theories has been if and how these theories can help us in getting a better and firmer grip on the phenomenon of the digital game. It became clear that these theories are helpful in the sense that they provide – be it a limited – vocabulary, a certain way to speak and write about games. These traditional theories are furthermore helpful in the sense that we can pinpoint certain vital differences between non-digital games and digital games. For example, it has been a long held belief that games and playing stand outside the course of normal, productive life[1] We have witnessed, however, that with the invention and up rise of computer games, games and playing as such have acquired a central place in our present-day life, culture, work, production, economy et cetera. In using the 'non-digital' notions on games and playing outlined by, for example, Huizinga and Caillois, we can locate certain differences between non-digital and digital games. These differences manifest themselves on the one hand on the level of the games played and the way these games are played and on the other hand on the level of how games and playing are received and perceived. For example, the fact that the notion of games and playing as something taking place outside the

[1] The Dutch historian Johan Huizinga, for example, stated that play is "a free activity standing quite consciously outside "ordinary" life ... It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space ..." (Huizinga, as quoted in Caillois, p. 4) [2]. Building on Huizinga's definition of play, Caillois gives six characteristics that define the activity of play: The second and fourth characteristics of play are especially relevant here: "Separate: circumscribed within limits of space and time, defined and fixed in advance; ... Unproductive: creating neither goods, nor wealth, nor new elements of any kind; and, except for the exchange of property among the players, ending in a situation identical to that prevailing at the beginning of the game; ..." (Caillois, p. 9-10) [2].

course of normal life is changing, indicates that games and playing as such have changed and are still changing but it also indicates that how people think about games and playing has changed and is indeed still changing.

In this paper I will focus on the work by Roger Caillois. Caillois' classification of games into four different dimensions – competition, chance, vertigo, and simulation – is very helpful and useful, even in relation to digital games. But it seems that something is missing, a vital element or term that can account for that which makes digital games so different from traditional games. In collaboration with my colleagues Jo Wachelder and Johan van de Walle I have come up with a "fifth dimension" that will be necessary in order to make Caillois' classification suitable for analyzing digital games. This "fifth dimension" should explain and give account of the fact that in a digital game the player is not only subject to competition, chance, vertigo, and simulation, but also to discovery, narrative, and progression. I have chosen the Latin word *repens* – sequentially embedded surprise – as the name for this fifth dimension.

LES JEUX ET LES HOMMES: FOUR CHARACTERISTICS OF GAMES AND PLAYING

From the outset, Caillois indicates that it is a difficult task to find a way in which the countless number of games can be classified: "The multitude and infinite variety of games at first causes one to despair of discovering a principle of classification capable of subsuming them under a small number of well-defined categories. Games also possess so many different characteristics that many approaches are possible" (1961, p. 12) [2]. After examining different possible classifications, Caillois settles for a system based on "a division into four main rubrics, depending upon whether, in the games under consideration, the role of competition, chance, simulation, or vertigo is dominant. I call these *agôn*, *alea*, *mimicry*, and *ilinx*, respectively" (ibid.).

The first dimension, *competition*, encompasses all competitive games, like football, billiards, or chess in which "equality of chances is artificially created, in order that the adversaries should confront each other under ideal conditions, susceptible of giving precise and incontestable value to the winner's triumph" (p. 14). *Chance*, secondly, includes games like roulette or the lottery that are "based on a decision independent of the player, an outcome over which he has no control, and in which winning is the result of fate rather than triumphing over an adversary" (p. 17). *Mimicry* refers to games of which the "common element … is that the subject makes believe or makes others believe that he is someone other than himself. He forgets, disguises, or temporarily sheds his personality in order to feign another" (p. 19-20), for example, when playing a pirate or Hamlet. *Vertigo*, finally, stands for games in which one seeks the destruction of order and stability, in which one attempts "to momentarily destroy the stability of perception and inflict a kind of voluptuous panic upon an otherwise lucid mind." In all cases, Caillois writes, "it is a question of surrendering to a kind of spasm, seizure, or shock which destroys reality with a sovereign brusqueness" (p. 23), as in turning around until one falls to the ground dizzily.

These four categories or dimensions of playing, however, are not solely found as individual phenomena; they can and often will be found in

2 Contrary to Lars Konzack's reading of Caillois's book in his article "Computer Game Criticism" (2002) [5], there are only a limited number of combinations possible. Although Konzack claims that "any of these game genres may be mixed and combined with each other" (2002, p. 96), Caillois suggests that some combinations are improbable or even impossible.

combination with each other, argues Caillois. [2] Caillois divides the six possible pairs into three classes, he writes that: "The four fundamental attitudes in theory can be coupled in six and only six ways" (p.71). The first class consists of the two so-called *forbidden relationships*, vertigo and competition and simulation and chance, by which Caillois means that these are rare or even impossible combinations. Concerning vertigo and competition he writes: "it is clear that vertigo cannot be associated with regulated rivalry, which immediately dilutes it. ... Rules and vertigo are decidedly incompatible" (p. 72-73). About the combination of simulation and chance he writes: "It makes no sense to try to deceive chance. Just as the principle of *agôn* is abruptly destroyed by vertigo, *alea* is similarly destroyed [by chance] and there is no longer any game, properly speaking" (p. 73). The second class of combinations, called *contingent combinations*, consists of the two pairs chance and vertigo and competition and simulation. The first pair is exemplified by Caillois in the following words: "it is indeed common knowledge that a special kind of vertigo seizes both lucky and unlucky players. They are no longer aware of fatigue and are scarcely conscious of what is going on around them. They are entranced by the question of where the ball will stop or what card will turn up" (p. 73). To illustrate the second contingent pair, Caillois refers to sports events in which competition and simulation seamlessly merge, for each competition is also a spectacle, the unfolding of which is based on identical rules (p. 74). Lastly, there are two *fundamental combinations*, competition and chance and simulation and vertigo, which will occur most frequently. The first pair is based on the "exact symmetry between the natures of *agôn* and *alea*: parallel and complementary. Both require absolute equity, an equality of mathematical chances of almost absolute precision" (p. 74). This combination can be found in games like dominoes, backgammon, and most card games. These games start from chance after which players try to deal with what blind luck has assigned

to them as skilfully as possible (p. 18). The second *fundamental combination* is more or less the opposite of the first fundamental combination. While competitive and chance games presuppose rules in order to exist, *mimicry* and *ilinx* "presume a world without rules in which the player constantly improvises, trusting in a guiding fantasy or a supreme inspiration, neither of which is subject to regulation" (p. 75).

Besides being grouped in pairs of two, the four different game dimensions can also be placed along a line between two extremes. On the one end Caillois situates *paidia* (a turbulent way of playing, like in vertigo or simulation) and on the other *ludus* (a more calculated, rule-based way of playing, like in competition or chance):

> At one extreme an almost indivisible principle, common to diversion, turbulence, free improvisation, and carefree gaiety is dominant. It manifests a kind of uncontrolled fantasy that can be designated by the term *paidia*. At the opposite extreme, this frolicsome and impulsive exuberance is almost entirely absorbed or disciplined by a complementary, and in some respects inverse, tendency to its anarchic and capricious nature: there is a growing tendency to bind it with arbitrary, imperative, and purposely tedious conventions, to oppose it still more by ceaselessly practicing the most embarrassing chicanery upon it, in order to make it more uncertain of attaining its desired effect. This latter principle is completely impractical, even though it requires an ever-greater amount of effort, patience, skill, or ingenuity. I call this second component *ludus*. (p. 13)

But *ludus* and *paidia* are not just opposites. *Ludus* should be regarded as complementary to and a refinement of *paidia* (p. 29). Caillois regards the shift from *paidia* to *ludus* as a shift in time, as a history of development: when children get older they refine

their games in such a way that they change from carefree gaiety to rule-based conventions.

THE NEED FOR A 'FIFTH DIMENSION'
Despite the usefulness of Caillois's theory with regard to our understanding of (digital) games and playing, it is clear that the four dimensions of competition, chance, simulation, and vertigo do not fully describe or account for the nature of digital games. The views of Caillois on games and playing are quite helpful in the sense that he provides a vocabulary, a certain way of speaking and writing about games, but, understandably, a vital dimension that accounts for the particular dynamic of these new games is missing in his theory. Specifically, elements or characteristics of digital games associated with a sense of unexpectedness cannot be grouped under the dimension of *agôn*, *alea*, *mimicry*, or *ilinx*. In order to make this classification suitable for analysing digital games, another category is needed that will be labelled *repens*, the Latin word for surprise, for a sudden and unexpected event. *Repens* can be defined as a sequentially embedded event that surprises us and that takes us one step further into the game, or that teaches us something more about the game.

At this point it is important to underline the possible confusion between Caillois' *chance* and the here-introduced *repens*. Although they might, at first glance, look alike, these two characteristics are not one and the same. Chance is a game characteristic that will manifest itself mainly in lottery and chance games that depend only on 'being lucky'. Therefore chance as such is a game characteristic that is not

that often found in digital games, contrary to competition and simulation. Because every possible action and reaction is programmed, 'being lucky' is a relative category in relation to digital games. To give an example of how the dimension of chance might manifest itself in a digital games, we could look at turn-based-battles[3] as they are used in the Final *Fantasy series* (Squaresoft). In such a turn-based-battle you might get lucky when the opponents stand with their back to you ('back-attack') and you have the chance to hit them one time without them knowing and being able to defend themselves. These moments of chance are also build-in or programmed and in that respect they differ from throwing the dice, but the fact that they are randomly distributed throughout the game makes them into a chance element, you have to be lucky to get these 'back-attacks'. Contrary to chance, moments of *repens* are not randomly distributed. They are encountered at strategic moments and places in the game. In the *Lara Croft* series (Core Design), for example, the medical packages will usually be hard to find and/or hard to reach. It is not through chance that you will find one on your way, they are always there, at that place in the game, and you just have to find them. Repens are build-in moments and elements in the game that are specifically designed to guide the player, to make her or him learn something, do something, make progress. Luck has nothing to do with it, they are meant to be.

Repens, however, is not the first attempt at capturing the dimension that accounts for the specific characteristic of digital games. Before I elaborate on the meaning and implications of *repens*,

[3] Turn-based-battles are battles where you stand opposite your enemy and take turns in hitting each other. When it is your opponent's turn to hit, all you can do is wait for the blow and see how severe the damage will be.

IN SEARCH OF A "FIFTH DIMENSION"

I will briefly consider other attempts to define that which demarcates digital from non-digital games. Jesper Juul, for example, in his article "The Open and the Closed" (2002) [4], writes on "progression" as a defining characteristic of digital games. He contrasts progression, "the historically newer structure that entered the computer game through the adventure genre" (p. 324), with "emergence", a characteristic that we know from more traditional games and that refers to the elemental game structure of card and board games and most action and all strategy games. In a progression game, Juul suggests, the player must perform a predefined set of actions in order to complete it. A typical example of such a game is *Final Fantasy X*. The term "progression" is very useful since it implies the temporal aspect of digital games, the fact that one has to follow a specific trajectory.

Game designer Marc Leblanc puts together another useful cluster of terms in his taxonomy of game pleasures. LeBlanc (http://www.algorithmancy. org) [6] identifies eight different kinds of "fun": sensation (game as sense-pleasure), fantasy (game as make-believe), narrative (game as drama), challenge (game as obstacle course), fellowship (game as social framework), discovery (game as uncharted territory), expression (game as self-discovery), and masochism (game as submission).[4] If LeBlanc's categorisation starts from the different types of fun one can experience from playing games, the one of Caillois rests on the denotation of game characteristics that bring about specific psycho-physiological reactions in players. A comparison of Le Blanc's eight types of fun with Caillois's four dimensions is revealing in this respect. Certain types

of games will give the player certain types of pleasures. For example, a simulation game (the third dimension outlined by Caillois) will – if at least the game is a good game – give the player the pleasure of fantasy. A competitive or chance game will give the player the pleasure of challenge, and a vertigo game the pleasure of masochism, of submitting oneself. This means that certain types of fun can and will be experienced when playing traditional, non-digital games: sensation, for instance, in nineteenth-century attraction games; fantasy and narrative in theatre; challenge in most board games; fellowship and expression in almost all games; masochism in role-playing games. One type of fun identified by LeBlanc, however, seems to be specifically related to digital games: the pleasure of discovery. Contemporary digital games seem to raise the discovery appeal of playing to unprecedented levels. Discovery therefore is a type of fun that is typical for digital games. It is, much like Juul's "progression", a term that points towards a specific characteristic of digital games. What both progression and discovery try to account for is the fact that in most contemporary digital games players have to follow a specifically plotted trajectory of obstacles in which they discover certain things that will account for their progression through the game.

REPENS: SEQUENTIALLY EMBEDDED SURPRISE

Repens encompasses both Juul's *progression* and LeBlanc's *discovery*. *Repens* points to a distinctive and crucial game characteristic that can be found in every contemporary digital game, but that has not yet been identified as such. *Repens* is the distinctive and

[4] This classification reminds us of the seven rhetorics outlined by Brian Sutton-Smith in his book *The Ambiguity of Play* (1997). Sutton-Smith describes and evaluates various studies on games and playing and divides them according to seven value systems, ideological rhetorics, or discourses, which embody the arguments made about a

certain form of play. These seven rhetorics are: progress (to be understood in a developmental or evolutionary way and therefore not to be compared to Juul's progression), fate, power, identity (expression in LeBlanc's taxonomy), fantasy or imaginary (identical to fantasy in LeBlanc's taxonomy), self (fellowship in LeBlanc's taxonomy), and frivolity

(narrative in LeBlanc's taxonomy). It seems, then, that a limited amount of terms is available for writing and thinking about games and playing. Many terms reoccur in efforts aimed at classifying games or analysing the fun of playing games; this is equally true of the predominant paradigm games theorists rely on.

binding element in the structure of the digital game as we know it today. It is this particular characteristic that sets the digital game apart from traditional games and allows us to understand what all the various types and genres of digital games have in common.

Specifically, *repens* refers to two major interconnected characteristics of the digital game. On the one hand it refers to surprise, to unexpectedness, to suddenness. A digital game is always geared towards holding the attention of the players by keeping them surprised (even though not all games will succeed in doing so in the same measure). This is something that a non-digital game cannot accomplish. For example, after having played *Monopoly* for a number of times, players know which cards they may draw and which streets will be the most profitable or the most easy to obtain and to keep. The game and the tactics needed to win *Monopoly* become more or less transparent after a while. The newness and the possible surprises subside. A good digital game, however, will continue to challenge players by built-in surprise elements, and this may even apply to experienced players of a particular game. *Metal Gear Solid 2: Sons of Liberty* (Konami, 2001), for example, gives players the opportunity to play the game again in a different way, after they indicate that they completed the game once before. Or players can buy the extension pack with new features and options, so that their second play will differ from their first (*Metal Gear Solid 2: Substance*, Konami, 2003).
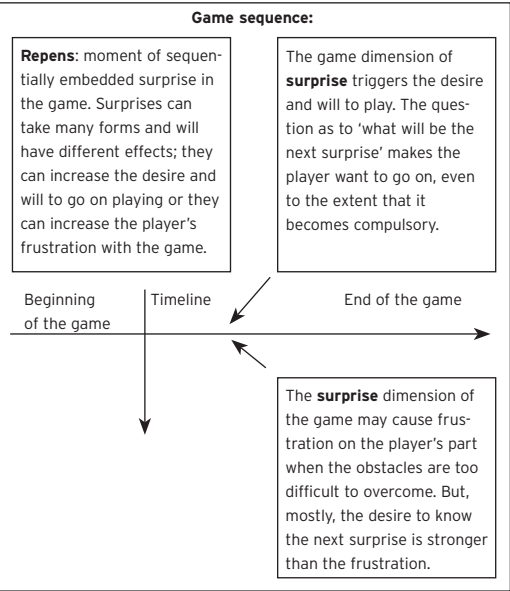
But what exactly is meant by "surprise"? Surprise is that which makes the game exciting, that which will drive the player to play on and on, to try again and again. It is a game's built-in surprise structure that channels players' desire and their will to play. As players we are eager to know what the next thing will be that the game has in store for us; we want to know what lies behind that door or what

is hidden in that trunk; we want to know what will happen when we talk to one character or shoot some other. A game's surprises, in their most basic form, provide the player with a certain object (like a potion, a health package, or a new sword), with new opportunities, or they may open up the way to a new level of playing. But they can also challenge players by frustrating them. Surprises can, and often will, take the form of obstacles that players must overcome in order to move on in the game. When they do not succeed in overcoming a particular obstacle, they are likely to get frustrated with the game. The game's surprise structure is crucial here. In a shrewdly designed game, players' desire to know the next surprise will often be stronger than their frustration and it will keep them captivated. On the part of the game designers, the major challenge is to find a proper balance between catering to players' desire to play on and their frustration level. If certain obstacles are too difficult to overcome or if the game experience of prospective players is miscalculated, players may decide to abandon the game prematurely (or to use cheats and codes). It is precisely their craving for the never-ending parade of surprises that may trigger compulsive game behaviour, their inability to stop and not try again.

On the other hand, *repens* refers to sequence, to succession, progression, chain, cycle, order, narrative, time and space. *Repens* is an unexpected action or event that takes place in a particular sequence. After all, an event never occurs in isolation; it is always embedded; it is always subject to a chain of cause and effect. Only when the player crosses a line or presses the right button, the surprise will manifest itself; the unexpected event only takes places when the right triggers are pulled. *Repens*, sequentially embedded surprise, refers in other words to the fact that two or more things follow each other in a certain order. For example, in the game *Final Fantasy X* players will only be able to

reach place B if they have performed action A. Again, a proper balance is important here, because this characteristic of games can be annoying when overused: players might feel as if they are filling out a form instead of playing a game.

Repens can be represented in the following simplified fashion:

Game sequence:

Repens: moment of sequentially embedded surprise in the game. Surprises can take many forms and will have different effects; they can increase the desire and will to go on playing or they can increase the player's frustration with the game.

The game dimension of **surprise** triggers the desire and will to play. The question as to 'what will be the next surprise' makes the player want to go on, even to the extent that it becomes compulsory.

Beginning of the game | Timeline | End of the game

The **surprise** dimension of the game may cause frustration on the player's part when the obstacles are too difficult to overcome. But, mostly, the desire to know the next surprise is stronger than the frustration.

As an analytical category, the notion of *repens* accounts for the fact that in a digital game players are not only subjected to processes associated with competition, chance, vertigo, and simulation, but also to elements tied to discovery, narrative, and progression. In most contemporary games, players have to go through a specifically plotted trajectory – of ditches and hedges and other obstacles – in which they discover certain things that will account for their progress through the game. In other words, they have to follow a certain, more or less pronounced sequence of events in order to advance in the game and go from, say, a more competitive element of the game to a more simulative one. Significantly, this suggests another important meaning of *repens*. It is a term that stands for (a) surprise and the desire and frustration generated by the surprises, and (b) sequence and the fact that in this sequence the player will move up and down between different genres of playing. *Repens*, therefore, is more than the pre-eminent feature that demarcates the difference between digital and non-digital games; it is also the quality that enables the combination of three or four of Caillois's game dimensions in one game. The various dimensions of games and the various genres of playing are combined into a sequence and the player is brought from one point to the next by strategically positioned surprises.

AN EXAMPLE

I will conclude this paper by giving some examples that will illustrate the usefulness of the fifth dimension *repens* in relation to describing, analysing, and understanding computer games. First of all I want to take a look at a particular mission from the James Bond game *The Operative. No one lives forever* (Monolith, 2002, played on an Apple pc). This mission, called *Misfortune in Morocco scene 1*, is the third mission of the game. The avatar is a James Bond girl on a secret mission against an evil organisation called H.A.R.M. In this particular mission you have to prevent H.A.R.M. from killing the nearly deaf and blind ambassador. You are standing in front of a window in a building facing the hotel where the ambassador is staying. He walks around, oblivious to the attempts to his life.

Image 1: Screenshot from *No one lives forever*. You are pointing your gun at the H.A.R.M. members who are trying to kill the ambassador (the bulky figure on the far left of the balcony).

At the beginning of this mission you can choose whether or not you want another agent to point the killers out for you. In other words, you can choose how much *repens* you can or are willing to handle. If you feel insecure or if you want to finish the mission as fast as possible, you choose for the least possible *repens*, surprise. In doing that, you will be able to kill all the H.A.R.M. members before they can even start pointing their gun at the ambassador. If, however, you choose to do it all on your own, it might take a few try-outs before you succeed in saving the ambassadors life.

Image 2: Screenshot from No one lives forever. You can make your choice between the easy or the hard way.

However, it is only in this early stage of the game that an agent is willing/able to help you out and

diminish the amount of *repens* in the game. Further on in the game you will have to do it yourself, you will have to be prepared for H.A.R.M. members to be jumping on you from around every corner and pillar. The amount of *repens* in this type of game makes the game at once very exciting and frustrating. You feel the adrenaline rushing through your body every time you face an enemy and are fast enough to take him out before he takes you out. At the same time, every time you die because you where not fast enough, not prepared enough for the surprise, or every time your missions fails because you have been spotted by a security camera, you feel frustrated. Starting all over again and doing the same difficult things yet again might make you feel exasperated, frustrated. In my opinion, however, the drive to continue is in this particular game well balanced against this frustration and therefore you do not stop playing but try again and again. When you finally succeed, the feeling of victory is a reward for all the frustration you had to endure.

In addition to the dimension of *repens*, this game also embodies the dimension of competition (in the form of the battle between H.A.R.M. and the secret agents), simulation (in that the game has some elements of role-playing to it, some players will easily identify themselves with the female secret agent), and vertigo (if you like the game, you will surely be lost in it for hours. Since the game has so many surprises in store for the player, you are driven to go on playing and playing, curious what the next surprise will be...). Although Caillois states that games can only be a combination of two different game dimensions (competition and chance for example) it is clear that most contemporary digital games combine more than two of these game dimensions. Most games are a combination of competition (fighting battles), simulation (identification with the avatar), vertigo (getting lost inside the game world), and repens (locating the surprises and reaction correctly to them).

Repens as it manifests itself in this particular mission takes the form of unexpected enemies popping out of 'nowhere'. Being able to deal with these surprises in the right way will bring you further into the game, will bring you to the next mission. But it is clear that that is only one form of *repens*. These sequentially embedded surprises do also manifest themselves in less threatening forms, for example in the form of a gun found, a medical kit, or important documents. The gun might enable you to kill your enemies from a balcony, rather than on the ground, without getting hurt yourself, the medical kit will save you when you get hurt, the documents will proof that H.A.R.M. is up to no good. These kinds of things are the typical props that will enable the player to make progress in the game, to upgrade its character, to know the things she or he needs to know in order to be able keep on playing.

However, locating *repens* in this type of narrative-laden games is fairly easy. It is harder to locate it in, say, a sport simulation game. Depending on the degree of realism that is strived at, you will be able to find surprises even in a sport simulation game. Needless to say, a game that wants to mirror golf in every detail will not hide secret things for the golf players along the course because that would undermine the realism of the simulation. But you might argue that even in these games some surprise is found in the unpredictability of the other golfers. Some sport simulations, however, do not strive for a hundred percent realistic simulation of the sport. Take for example the *Tony Hawk's Pro Skater* series (Activision).

Tony Hawk's Pro Skater 3 (Activision, 2001, played on the Nintendo Gamecube) might be a sport simulation game but it can only be adequately described if one uses, next to Caillois's original four game dimensions, the dimension of sequentially embedded surprise. At the beginning of the game players can choose between the career mode, multi player, or free ride. When you have made your choice, you go to the skate shop where you can choose the skater that you want to ride and the location. Initially you can only choose the first location, the steel-melting factory. In order to be able to ride the other locations too, you will need to finish the career mode missions. Only then can you unlock the other locations. The surprise is very clear here: players know that there will be another location to ride, but they do not know how it will look and what opportunities it will give them. However, the things they must accomplish in order to unlock these other locations are rather complex, especially since players have a limited amount of time in which to do it. This is one of the most challenging, but also perhaps most frustrating things about the game: the fact that as a player you have to do a series of complex moves in a limited amount of time. The frustration arises from the fact that you will need to try and retry this series of moves until you finally succeed (or not). But the will, the drive to go on playing is stronger than this frustration since you want to know how the other locations look and what you will be able to do there. Besides the rather obvious surprises of the locked locations, there are also the in-level surprises (which remain, of course, only surprises until you have 'found'/encountered them) in the form of a melting pot in which players may fall at the first level, the location of certain treasures, the possibilities of new ways to earn points (a smash of the head to the other players, for example).

Besides the game dimension of sequential embedded surprise, *Tony Hawk* also features elements of competition (against time, against a second player, in order to beat the high score), simulation (players can identify with the skaters in the game; that they are modelled after real life pro-skaters may even enhance the identification level: players can be one of the skaters they admire),

vertigo (players can definitely lose themselves, especially because they can do things they normally cannot do or be someone they admire. For the time being, it is nice to surrender your reality for the one the game presents you). The game dimension of chance is, as with most other computer games, hard to find in this sport simulation game.

CONCLUSION

The real achievement of defining and pinpointing this fifth dimension is that it provides us with an extended vocabulary that can be used when analyzing and describing computer games. When writing about a certain game we can now use, in addition to the characteristics of competition, simulation, vertigo, and chance, the characteristic of *repens*, of sequentially embedded surprise. This fifth characteristic is the core of the differences between non-digital and digital games, it is *the* defining characteristic of the contemporary digital games. It is due to the use of *repens* in computer games that they are so popular, that they are such fun to play. Because *repens* is the driving force behind our desire to keep on playing, the balance between surprise and frustration, between frustration and victory makes a game exciting, enticing, captivating. *Repens* is, in other words, a methodological tool that will refine and elucidate the describing and analyzing of computer games. It is also a term that will enable us to pinpoint more precisely why we like a certain game (if the amount of frustration caused by certain obstacle-generating-surprises is well balanced against the finding-helpful-things-surprises) or not (the surprises are too obvious, repetitive, unwelcome, too challenging, et cetera).

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7. LUDOLOGISTS LOVE STORIES, TOO:
NOTES FROM A DEBATE THAT NEVER TOOK PLACE

Gonzalo Frasca

ABSTRACT

During the last few years, a debate took place within the game scholars community. A debate that, it seems, opposed two groups: ludologists and narratologists. Ludologists are supposed to focus on game mechanics and reject any room in the field for analyzing games as narrative, while narratologists argue that games are closely connected to stories. This article aims at showing that this description of the participants is erroneous. What is more, this debate as presented never really took place because it was cluttered with a series of misunderstandings and misconceptions that need to be clarified if we want to seriously discuss the role of narrative in videogames.

KEYWORDS

Ludology, narratology, ludologist, narratologist, narrativism, narrativist

INTRODUCTION

This is an unusual article. My original intention was writing a paper on the role of narrative in videogames (through cutscenes and instructions) for conveying simulation rules. When I mentioned this to a colleague, he was shocked: he thought that, since I am known as a ludologist, there was no way I could accept any role for narrative in games. Of course, I told him he was wrong and that such idea of ludology is totally erroneous. That misconception is, I think, a direct consequence of the so-called narratology versus ludology debate. I believe that this debate has been fueled by misunderstandings and that generated a series of inaccurate beliefs on the role of ludology, including that they radically reject any use of narrative theory in game studies.

Since I guess that I have been in a privileged position to witness the development of this debate over the last four years, I decided to write down a list of the most common misconceptions that it generated. It is not my main intention in this paper to support ludology but rather making explicit all the contradictions that prevented this debate from taking place. However, I do not pretend to be totally objective neither: I do not favor narrative as a privileged means for understanding videogames for reasons that have been previously exposed by several authors and are beyond the scope of this article. Finally, I would like to make clear that I will be speaking only for myself and I am the only responsible for all the opinions expressed in this article.

NARRATOLOGY

Let's start by stating the obvious. The de facto definition of a narratologist in this so-called debate seems to be a scholar that either claims that games are closely connected to narrative and/or that they should be analyzed –at least in part– through narratology.

However, the widely accepted definition of narratologist in Humanities is: a scholar who studies narratology, a set of theories of narrative that are independent of the medium of representation. Examples of narratologists include Todorov, Genette, Greimas, Metz and Prince, just to mention a few. Any of these traditional scholars never worked with computer games. More recently, other narratologists such as Marie-Laure Ryan, have indeed analyzed them.

So, it seems that the first problem that we have in this debate is that one of the terms ("narratologist") has a different meaning outside and inside the game studies community. This of course can be the source of confusion. For this reason, Michael Mateas proposed the term "narrativist" in order to refer to a scholar who uses "narrative and literary theory as the foundation upon which to build a theory of interactive media." [14]. For the sake of clarity, any reference in this article to such scholars will appear as "narrativist". I will reserve the term "narratologist" to describe a researcher who focuses on narrative in any medium, including film, literature or videogames.

LUDOLOGY

Contrary to what has been claimed, the term "ludology" has not been coined neither by Espen Aarseth [3, 11] neither by myself [20]. According to research performed by Jesper Juul, the term was used as early as in 1982, albeit scarcely and with a different meaning. However, the expression seems to have started gaining acceptance around 1999, after my publication of "Ludology meets narratology", which was followed in the year 2000 by Jesper Juul's "What computer games can and cannot do", presented at the third Digital Arts and Culture (DAC) conference. My article proposed using the term "ludology" to describe a yet non-existent discipline that would focus on the study of games in general and videogames in particular. I was a call for a set of theoretical tools that would be for gaming what narratology was for narrative [8]. This need was shared by a large number of researchers, so the word caught on.

However, words have a natural tendency to take a life of their own. For instance, Game-Research.com's dictionary of game studies terms offers two meanings. The first one states that ludology is "The study of games, particularly computer games". This definition follows the one I presented in 1999, which was later expanded at Ludology.org, my research blog[1]. Game-Research's second definition is essentially different: "Ludology is most often defined as the study of game structure (or gameplay) as opposed to the study of games as narratives or games as a visual medium." Personally, I do not subscribe to this sec-

[1] I have been asked several times what is the difference between "game studies" and "ludology". The answer, as far as I see it, is none. Both terms describe our new discipline and I constantly use them as synonyms.

ond meaning, which I find to be a simplification, as I will explain later.

WHO ARE THE LUDOLOGISTS?

The first time I heard the use of the term "ludologist" was at the 2001 DAC conference held at Brown University. It was used to describe Markku Eskelinen, Jesper Juul and myself. Since our research work generally follows Espen Aarseth's, by extension the term has also been associated with him. Interestingly, Aarseth has never used the term "ludology" on any of his writings.

Additionally, the term has also been used to describe the crew of the *Game Studies* journal, which includes –but is not limited to– the people I just mentioned [15]). Finally, the term has also been specially associated with Juul and myself because of our research blogs (The Ludologist and Ludology.org, respectively). Other game scholars, such as Aki Järvinen, define themselves as ludologists. As far as I see it, a ludologist is simply a game scholar, whatever is his or her position on narrative and games.

WHO ARE THE NARRATIVISTS?

Another example of the non-existence of this ludological/narratological debate is the difficulty to find the identity of the narrativists. Mateas [14] clearly identifies the ludologists but fails to name the narrativists. Henry Jenkins claims that Janet Murray is usually referred to as a narrativist [11]. However, I am not aware of any article by Janet Murray where she takes a position in this so-called debate. It is true that Murray's approach to games is in the context of storytelling (and drama) but it would be inaccurate to situate her on the opposite of "studying game play from the point of view of their mechanics". I know this for a fact: we extensively discussed on videogame theory for two years while she supervised my "ludological"

dissertation at the Georgia Institute of Technology.

Other defendants of privileging the use of narratological tools for game studies preferred not taking a side on this debate, but rather decided to situate themselves in "a middle ground position" (Jenkins, [11]), "a fruitful theoretical compromise between [narrativism and ludology]" (Ryan, [19]) or a "hybrid space" (Mateas, [14]).

This lack of narrativists really confuses me: it would seem as if they never existed.

LUDOLOGY VERSUS NARRATIVISM

I believe there is a serious misunderstanding on the fact that some scholars believe that ludologists hold a radical position that completely discards narrative from videogames (hence the title of this article). For example, Marie-Laure Ryan argues that ludology should not "throw away" the concept of narrative from it [18]. She even calls for the "development of a new ludology" [19] that includes it.

The puzzling thing is that, from its very beginning, "old" ludology never discarded narratology. When I suggested the term, I clearly stated that my main goal was "to show how basic concepts of ludology could be used along with narratology to better understand videogames" [8]. In case any doubts still remains about ludology's intentions of peacefully coexisting with narratology, I also added that my purpose was "not to replace the narratologic (sic) approach, but to complement it" [ibid.]. If I do not favor narratology as a main tool for game analysis it is not out of a caprice, but because I already invested my early research years trying to use narratology for videogame study without much success [7]. Yes, I confess: I was a teenage narrativist.

It is hard to think that Espen Aarseth could have a radical posture against narrative, since he stated in *Cybertext* that:

"[...] to claim that there is no difference between games and narratives is to ignore essential qualities of both categories. And yet, as this study tries to show, the difference is not clear-cut, and there is significant overlap between the two." [1]

Whoever reads Juul's "Games Telling Stories?" will see that he clearly points out the connections between games and narrative:

"I would like to repeat that I believe that: 1) The player can tell stories of a game session. 2) Many computer games contain narrative elements, and in many cases the player may play to see a cutscene or realise a narrative sequence. 3) Games and narratives share some structural traits." [12]

Markku Eskelinen is no exception: he uses narratology as a reference in his studies of games, simulations and cybertexts [4, 5, 6].

One thing is not favoring narratology as a preferred tool for understanding games and a whole different one is to completely discard it. Based on this information, the idea that ludologists want to discard narrative from game studies seems to be totally inaccurate.

RADICAL LUDOLOGY

Looking through the ludologists' work there is one claim from Markku Eskelinen from "The Gaming Situation" which could be interpreted as a sign of ludological radicalism. Rune Klevjer pays particular attention to it in his "In defense of cutscenes":

"In his excellent article about configurative mechanisms in games, The Gaming Situation, Markku

Eskelinen rightly points out, drawing on Espen Aarseth's well-known typology of cybertexts, that playing a game is predominantly a configurative practice, not an interpretative one like film or literature. However, the deeply problematic claim following from this is that stories "are just uninteresting ornaments or gift-wrappings to games, and laying any emphasis on studying these kind of marketing tools is just waste of time and energy". This is a radical ludological argument: Everything other than the pure game mechanics of a computer game is essentially alien to its true aesthetic form." [13]

To start with, Klevjer's quote is incomplete and, I think, it should be read in context. Eskelinen actually said "In this scenario stories are just uninteresting ornaments [...]". The scenario he was referring to is the one provided by elements for game analysis that he previously mentioned on his text. In other words, it seems that he was referring to what the focus of game scholarship should be. The author personally confirmed this to me when I asked him to clarify what he had meant. Even if the text's phrasing might be questionable, I find quite surprising that Klevjer seriously believed that Eskelinen wanted to terminate all videogames that include characters or stories and force us to only play "pure", abstract games such as *Tetris* or *Reversi*.

COLONIALISM IN THE LAND OF LUDOLOGY

Another possible cause for this misconception of ludologists as radicals may be due to what I will call the colonialist/imperialist issue.

I was surprised when the editors of *Screenplay* –a collection of articles on videogames and cinema– felt obliged to make explicitly clear that their enterprise was by no means to present cinema as a privileged way of studying games, nor that it was "designed to

be an 'imperialist' enterprise, seeking to claim the relatively unsettled territory of games largely or exclusively for film-oriented approaches" [10]. The phrasing clearly references "Computer Game Studies, Year One", Aarseth's opening editorial for the first issue of the journal. In that article, Aarseth warned that: "Games are not a kind of cinema, or literature, but colonizing attempts from both these fields have already happened, and no doubt will happen again." [2] In that same issue of *Game Studies*, Eskelinen offers a similar remark: "if and when games and especially computer games are studied and theorized they are almost without exception colonized from the fields of literary, theatre, drama and film studies." [4]

I think Aarseth's and Eskelinen's concern with the "colonization" from other fields should be seen in the context of researchers that are working to provide independence for a new field of study. However, to claim that by doing this they reject any intervention from other discipline would be excessive. Aarseth clearly states this when he claims:

> "Of course, games should also be studied within existing fields and departments, such as Media Studies, Sociology, and English, to name a few. But games are too important to be left to these fields. (And they did have thirty years in which they did nothing!)" [2]

Susana Pajares-Tosca specifically responded to this same colonization issue in a blog post from the DAC 2003 conference:

> "[…] a lot of the papers dealing with games at DAC feel the need to position themselves in the ludology-narratology debate (which I personally consider terribly boring at this stage), and generally to speak against the "ludologists" of Game

Studies. This is sad. Look at the journal (not only the varied academic board or editorial board, but specially the articles), you will find about everything, from genre questions to education to narrative questions to interactivity questions to ludology to interviews with designers to AI... I am sorry, but this is not a religion not a school of thought, what unites all the articles we publish is that the focus is games, not an affiliation to a weird sect." [15]

THE DEFINITION GAME

Several academic misunderstandings can be caused by not clearly specifying the definitions that scholars subscribe to. Our so-called debate seems to be no exception. Apart from Marie-Laure Ryan [18], narrativists seem to systematically fail to provide clear, specific definitions of what they mean by narrative. It is true that defining narrative is not a simple task, but we do have access to a rich narratological tradition where we can look for support.

When ludologists claim that, in spite of certain similarities, games are not narratives, it is simply because the characteristics of games are incompatible with some of the most widely accepted definitions of narrative provided by narratology. For example, in "The Gaming Situation" [4] Eskelinen subscribes to respected narratologist Gerald Prince's definition and uses it to show differences between games and narrative ("the recounting (as product and process, object and act, structure and structuration) of one or more real or fictitious events communicated by one, two or several (more or less overt) narrators to one, two or several (more or less overt) narratees." [17]). The situation is quite different when games scholar Celia Peirce claims that the game of Chess is a narrative and has a "similar 'storyline'" than MacBeth, even if narrative works differently in both genres [16]. According to Prince's definition –to which Peirce

obviously does not need to agree with– it is impossible for the game of Chess could be narrative since it is not a recounting, there is no narrator and no narratees[2]. Certainly, Peirce could have been using a broader definition of narrative but, sadly, she failed to make it explicit in her article. This situation is very common among narrativist texts.

In order for the debate to advance, it seems that narrativists need an alternative definition of narrative. However, this may not be an easy task. As Ryan admits, current, off-the-shelf narratological theories are unable to work well with games, so it would seem it is up to the narrativists to expand them in order to offer a solid backup to their claims:

> "The inability of literary narratology to account for the experience of games does not mean that we should throw away the concept of narrative in ludology; it rather means that we need to expand the catalog of narrative modalities beyond the diegetic and the dramatic, by adding a phenomenological category tailor-made for games [18].

For a real debate to take place, academic tradition requires to minimize vague approaches by trying to provide clear definitions. If those standards are not met, then any debate can easily turn into a confusing conversation where everybody ends up speaking a different language.

CONCLUSION

My main goal in this article was to list at least some of the misunderstandings, mistakes and prejudices surrounding the so-called ludology/narratology debate. I hope this has helped to make clear the following points:

· the work of the so-called ludologists does not reject narrative, nor it wants to finish narrative elements in videogames.
· the accusations of radicalization of this debate are totally unfounded.

I think that it is understandable that, because of the early stages of our field, such misconceptions have arisen. This is why I sincerely hope that this article will serve to point out some of the common problems that prevent researchers from understanding each other when talking about games and stories. The real issue here is not if games are narratives or not, but if we can really expand our knowledge on games by taking whichever route we follow. So far, I am convinced that we should privilege other forms of representing reality, such as simulation, which are more coherent with the characteristics of games. But, of course, that idea is open to debate.

ACKNOWLEDGMENTS

[2] Of course, a specific match could be narrated, but that is not equivalent to the match itself.

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8. THE PLAYABILITY OF TEXTS VS. THE READABILITY OF GAMES:
TOWARDS A HOLISTIC THEORY OF FICTIONALITY

Julian Kücklich

ABSTRACT

Playful interaction occurs not only in games, but in literary texts as well. One cannot describe what takes place between author, text, and reader more accurately than by calling it a game. Games, on the other hand, cannot be reduced to playthings, but must be considered as cultural objects that are being read and interpreted. One does not, however, read solely for the plot. This is why a purely narratological analysis of both digital and analog games is bound to fail. Many games create a fictional world to be inhabited and explored by the players. In this respect, games are similar to literary texts, and a philological approach to games is therefore primarily justified because of their fictionality, rather than their narrative qualities. This is my starting point in an exploration of different models of 'playability', and how they can be used to understand the 'readability' of games.

KEYWORDS

Fictionality, reader-response theory, semiotics, possible world theory, playability

THE PLAYABILITY OF TEXTS
Fiction as Play

In his book *The Fictive and the Imaginary* [5], reader response theorist Wolfgang Iser dedicates a whole chapter to what he calls the *Textspiel* ('textual game'). The *Textspiel* is an integral part of Iser's theory of fictionality in which literary texts are regarded as embedded in a triadic relation between the fictive, the real and the imaginary. It should be noted in advance that *play* is the mode of mediation between the three points of this triad, and the driving force behind the *Textspiel* is the opposition between *play* and *game*. Furthermore, Caillois' play modes – *agôn*, *alea*, *mimicry* and *ilinx* – play an important role in structuring this basic opposition.

The word 'fiction' itself is derived from the Latin *fingere* ('to shape, form, devise, feign'). In Iser's interpretation, this last meaning is the most important, because it makes us aware of the fact that the act of creating a fictional world is always a form of manipulation, a sleight-of-hand that creates something which pretends to be real, but must remain imaginary. It should be noted that the same could be said about simulations. Although a simulation usually has a

real referent (a simulation *of* something), the reference system of a simulation can also be fictional. For example, a new car might exist as a simulation before a prototype is built.

According to Iser, there are three different modes of 'feigning'. Of these, the most important one is the mode of 'selection', because it allows us to differentiate between fiction and simulation. In Iser's terminology, selection is the process of choosing and integrating elements of the real world into a fictional setting in order to make it believable. The realists of the 19th century achieved this by paying close attention to details and by including letters, maps and other documents into the text of the novel, but this process of selection plays an integral part in the creation of any literary text. However, the process of selection is different when creating a simulation. Here, not only individual elements of the reference world are selected, but also the interrelations between them. Therefore, we often find 'emergent behavior' in simulations, i.e. events that were not foreseen by the simulation's creators.

Although it might seem so at first, the difference between fiction and simulation is not derived from the fact that fiction is 'static' and simulation is dynamic or procedural. However, in fictional texts, the procedural activity is something external to the text, something that takes place in the reader's mind rather than within the text itself. In this sense, fictional texts are more interactive than simulations, because they absolutely require the participation of a reader. Simulations, on the other hand, are mostly self-sufficient enough to 'run' at least for some time without external input.

In this respect, fictions can be said to be more 'playful' than simulations. There is a sort of subtle competition between reader and text, between what Umberto Eco once called the *intentio operis* and the *intentio lectoris*. Many digital games, however, are both: simulations *and* fictions. The physical aspects of the game world are simulated by the game's physics engine, while the aesthetic aspects are the product of a process of fiction-making that takes place between the player and the game itself. It should be noted at this point that not all digital games are fictional. I will therefore use Barry Atkins' term 'game-fiction' wherever appropriate.

Fiction-Making in *Half-Life*
This process of fiction-making, or *poiesis*, is best explained with an example. The classic first-person shooter game *Half-Life* [1] seems well suited to this task, because the game itself takes the process of fiction-making as its theme. As mentioned, the process of fiction-making must necessarily begin by taking elements of the real and putting them into a fictional context. Of course, this can be done in different ways. When creating a fictional character, authors or designers can put him or her together bit by bit by taking physical traits and behaviors encountered in the real world, thus constructing a character who is entirely fictional. But they might just as well create a 'blank' character and leave it up to the reader's imagination to fill in the details. Or they might take a historical person whose image already exists in the mind of potential readers and can be 'activated' by the mere mention of his or her name.

The setting of *Half-Life* is a collage of objects from the world we, the players, inhabit. From the vending machines to the lockers, from the muttering scientists to the authoritative security guards, Black Mesa is instantly recognizable as part of the world as we know it. Even the game's primary weapon is not a sci-

fi laser gun, or even a gun at all, but a tool, a crowbar. This 'éffet réel' is complemented by what Barry Atkins has called the "gritty realism" of *Half-Life*: "Even before the alien incursion that damages so much of the infrastructure, the solid state hardware of Black Mesa is in disrepair. Lights flicker, the electrics play up, doors jam" [3]. In other words: it's just like home.

However, the process of fiction-making requires an additional element: the imaginary. In *Half-Life*, this element is represented by the aliens from a different dimension that invade the Black Mesa facility. Suddenly, they are everywhere, roaming the corridors, feeding on corpses, attacking the player's in-game incarnation Gordon Freeman incessantly. Quite obviously, the imaginary is a force to be reckoned with. But if it weren't for the player, the real and the imaginary would never have come into contact. This is illustrated by the scene in the game's beginning in which Gordon pushes a sample of 'anomalous material' into the 'particle beam'. This is the creation myth of all fiction: the real comes into contact with the imaginary and all hell breaks loose.

A Literary Theory of Interactivity
The player's role in the process of fiction-making cannot be overestimated. It is only through the player's investment of belief into that world that the game-simulation becomes a fictional world that can be inhabited and explored by the player. Samuel Taylor Coleridge's "willing suspension of disbelief" is of equal importance in game-fictions as in literary texts or other forms of fiction. Therefore, if we want to understand digital games as forms of fiction, we must take the player's interaction with the game into account.

The concept of interaction itself has been the subject of much heated debate. However, in this discussion, little attention was paid to a theory of interactivity that comes from the field of literary studies. Once again, I turn to Wolfgang Iser, who outlined a theory of literary interaction in his seminal book The *Act of Reading* [4]. Iser starts his exploration of the interaction between reader and text by pointing out that the "reciprocal influence" between the two allows us to speak of interaction. He then goes on to review theories of interaction from psychoanalytic communication research and social psychology. The latter is of special interest to him, because it offers the possibility to distinguish different forms of interaction based on the kind of contingency in a given communicative situation.

Iser outlines the following four types of interaction: reciprocal contingency, pseudo-contingency, assymmetrical contingency and reactive contingency. Reciprocal contingency is regarded as the 'normal' mode of communication. It is characterized by a tendency to either thrive on the communicating parties' contributions to the exchange or quickly deteriorate into mutual animosity: "Whatever the content of the interaction's course, there is implied a mixture of dual resistance and mutual change that distinguishes mutual contingency from other classes of interaction" (Jones and Gerald: *Foundations of Social Psychology*, quoted in [4]).

While a game with two or more players is usually characterized by assymmetrical contingency (i.e., one player wins, the other[s] lose), single-player games can be regarded as a form of reciprocal contingency: either the communication between player and game is successful, and the player proceeds in the game, or it fails, and the game is aborted. A hermetic, 'resistant' text shuts itself off against its readers, but still urges them on by its opacity. In a similar way, game-fictions put up

resistance against the players' attempts to make sense of them, while at the same time giving them the necessary hints to 'solve' the game.

THE READABILITY OF GAMES
The Postmodern Temptation

Iser seems to offer us a suitable model for the analysis of game-fictions: a playful, interactive process that results in a fictional world for the player to explore. But does it make sense to use Iser's model for the analysis of games? One objection that comes to mind is the fact that an expansion of the meaning of the term 'game' might cause it to lose its analytical power, similar to the way the term 'text' lost much of its critical potential through the way it was used in the heyday of postmodernist literary theory. Therefore, the answer to this question must be both yes and no. No, because it might cause us to fall prone to what has been called the 'postmodernist temptation'. Yes, because Iser's use of the term 'game' is not deconstructive but constructive.

The word *jeu* ('game') itself gained wide currency in deconstructivist thinking through Derrida's concept of the "game of signification" and Paul de Man's "play of language." However, Derrida and de Man use the word 'game' in a way that deprives it of all meaning. While this might have been fully intentional on the part of the two deconstructivist philosophers, it leaves us at a loss about what to do with the term 'game' within the context of literary studies. Should it be given up altogether, in order to avoid the almost inevitable connotation with deconstuctivism? Or can it be used in a way that restores its analytical potential?

Iser's concept of the *Textspiel*, with its fine distinctions between different kinds of games as well as different kinds of play seems to offer a way out of this dilemma. But, I would argue, only if it is complemented by other theoretical concepts that make use of a more rigid terminology. Thus, the meaning of the word 'game' can be stabilized by placing it, as it were, within a semantic field with clearly defined relations between the semantic units. While this will certainly not solve the problem of defining the term 'game,' it will at least limit its abuse by theorists who will call anything a game– from language to society, from learning to love – without specifying which kind of game these phenomena are supposed to resemble and which rules they follow.

So, what are the theoretical concepts that can be used to stabilize Iser's model? Here, I would like to concentrate on one especially potent theoretical concept from semiotics which has received scant attention from game studies as of yet: possible world theory.

Possible World Theory

Marie-Laure Ryan has outlined the potential of possible world theory for the study of electronic texts in her book *Possible Worlds*, *Artificial Intelligence*, *and Narrative Theory* [7]. The theory is based on the assumption that any fictional text can be regarded as a possible world and that a possible world can contain an unlimited number of sub-worlds. These sub-worlds can be embedded stories, as well as the beliefs, wishes, and obligations of the world's inhabitants. It is beyond the scope of this paper to provide a detailed account of possible world theory, but it should be clear from these brief remarks that the sub-worlds within the world of any given text are usually contradictory models of the world they are embedded in. In the film *The Truman Show*, for instance, Truman's knowledge of the fictional world is radically at odds with every other inhabitant's (or the viewer's) knowledge about this world.

In order to develop a working model of a player's interaction with the fictional world of a game, I intentionally neglect the ontological differences between the world (or worlds) directly accessible to the reader and the world of the game with its potentially infinite number of sub-worlds. Thus, I arrive at a six-world-model that has the necessary flexibility to describe different kinds of fiction. The individual parts of this model are the following:

1. the reader's actual world (RAW),
2. an external observer's perception of the reader's actual world (RAW'),
3. the reader's possible world (RPW),
4. the narrator's actual world (NAW),
5. the textual actual world (TAW) and
6. the textual reference world (TRW).

A graphical representation of these worlds and their interrelations will demonstrate how this model works:
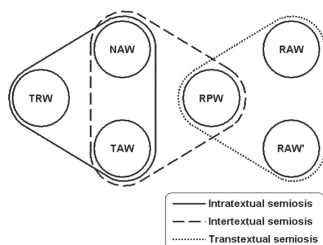

Illustration 1: The six-world model

Thus, the process of playing can be regarded as a series of interlocking semiotic operations, which I call the intratextual, the intertextual and the transtextual semiosis. In this process, the textual reference world – that is, the unmediated fictional world of the game that is twice removed from the player's actual world – is the object of the intratexual semiotic operation. As in any semiotic operation, this object is transformed

into an interpretant (TAW) through a sign (NAW). In other words, the image of the textual reference world projected by the game is interpreted and brought forth by a narrative agent. In turn, this interpretant becomes the object of the intratextual semiosis. In this step, the boundary between game and player is transcended, and its product is the player's possible world.

The difference between a literary text and a game-fiction lies, among other things, in the fact that the reader's possible world has a physical manifestation in the process of playing, while it is purely virtual in the process of reading. In the terminology of Philippe Bootz, who differentiates the text-as-written (texte écrit), the text-as-seen (texte-à-voir) and the text as read (texte lu), the text-as-read is what is on the screen in the process of playing. This pattern of pixels can be seen and interpreted by another person watching the player, and although this observer might interpret the image differently, he or she sees the same things as the player. If I watch somebody reading, on the other hand, I do not have access to the the reader's possible world, but only to my own.

This does not mean, however, that two people cannot communicate about a game, or, for that matter, a text. On the contrary, the difference between the reader's possible worlds is a prerequisite for this communication. If this difference did not exist, there would be nothing to say, because the experiences of the communication party would be exactly the same. No contingency. Game over.

But let us return to the third and final semiotic operation: the transtextual semiosis. This is what takes place in the player's consciousness after the image on the screen has been registered. As before, a sign is used to arrive at an interpretant. In this case, the object is the reader's actual world, and the

sign is the reader's possible world. The resulting interpretant is RAW', that is, an alternative of the reader's actual world. This reflects the fact that the world of the player, which is partially a product of his or her own perception, is changed, albeit only slightly, by every interaction with the game. Games, like texts, change our perception of the world.

TOWARDS A HOLISTIC THEORY OF FICTIONALITY

Before I conclude, I would like to point out how Iser's *Textspiel* and the semiotic six-world-model can be integrated into a holistic model of fictionality. In this process, I will also attempt to extrapolate some of the rules of the *Textspiel*. It must be clear, however, that the model, as it is presented here, is far from complete. Therefore, its rules are themselves subject to play, and will necessarily change as the concept evolves.

First of all, we must attempt to clarify how the individual parts of the six-world model correspond to the elements of Iser's *Textspiel*. Since both are basically triadic models, this proves rather simple: the intratextual semiosis corresponds to what Iser calls the fictive, the intertextual semiosis corresponds to the imaginary, and the transtextual semiosis corresponds to the real. This draws attention to the fact that the model can not only be used to represent the playing of a game-fiction, but also its creation. In this case, elements from the creator's actual world are transferred into the fictional world by an act of the creator's imagination.

Intratextual Semiosis

A closer look at the elements of the six-world model should reveal some of the rules that govern the process of fiction-making. The intratextual semiosis provides a convenient starting point, because it will allow us to go through the process' steps one by one.

As has been pointed out before, the intratextual semiosis takes as its object the textual reference world and transforms it into the world-image projected by the text. The rule that governs this process is the rule of internal consistency. In order to project an image of the textual reference world to the player that he or she will accept at face value, the narrating agency must be reliable.

An unreliable narrative agency will make the player suspicious of the way the game-world is represented to him. In extreme cases, this can lead to a total breakdown of the fictional process, but usually moderate violations of this rule are tolerated. Everybody who has ever played a game-fiction will be familiar with autistic adversaries that will react to being shot at, but not to the pushing around of heavy metal crates directly behind them, or similar inconsistencies in the game-world.

In some cases, violations of this rule might even have a beneficial effect: for instance, in the adventure game *ICO* [2] the save-points are marked by glowing white sofas that are totally out of place in the game's fantastic setting. Although these are obvious breaks in the game-world's internal consistency, they nevertheless allow the player to save the game intuitively and without navigating through menus. This in turn blends the process of saving smoothly into the game itself and thus coherence is reestablished.

Intertextual Semiosis

The second part of the process is the intratextual semiosis, the imaginary component that links the real world and the fictional world of the game. In this step, the image projected by the text is transformed into the reader's impression of this image. As has been pointed out before, this is an interactive process which is governed by the rule of consistent interaction. That is to say, the interaction

with the game should be as intuitive and predictable as possible in order to guarantee the completion of this step of the process. In a game-fiction, the rules governing the interaction between player and game are not supposed to change arbitrarily.

What happens if these rules are subject to arbitrary change is described impressively by D.B. Weiss in his novel *Lucky Wander Boy* about the fictitious arcade game of the same name:

> "The tentacles of randomness had been extended to envelop the very physics of the game world. The variables in the equation that determined the parabolas of Lucky Wander Boy's Jump!s, the rate of his Drop!s, the number of seconds before the horrible Photo-Sebiro came out [...] – all were subject to the whims of random-number generating subroutines, themselves modified by other random-number generating subroutines. [...] After about twenty seconds, Photo-Sebiro caught up with Nixon's Lucky Wander Boy and flashed him into oblivion. [...] 'Fuck you, you fucking punk-ass fuck! It's not fucking fair! Cheating bitch!' Nixon smacked the machine and we all backed off." [8]

This drastic reaction is of course entirely understandable. The game *Lucky Wander Boy* is a parable of life and as life itself it seems utterly random and unfair at times. What we expect of games, however, is a refuge from the uncertainties of everyday life, an escape into a world where death always has a reason – such as our failure to pull the trigger quickly enough or our misjudging the distance to a platform suspended over a sea of bubbling lava.

If the criterion of consistent interaction is not met, the fictional game-world easily breaks down. If button configurations change from one moment to the next, this inevitably draws our attention away

from what is happening in the game to focus instead on the controller in our hands. If our game character loses items from his or her inventory, we will start to distrust the game. And if we cannot proceed within the game because of a bug in the game code, this will shatter our faith in the game-world beyond repair.

Transtextual Semiosis
The third and final step in the process of fiction-making is the transtextual semiosis. In this step, the player's impression of the game-world is integrated into his or her real world, effecting a change in this world. This difference will then be fed back into the game-system and the semiotic process begins anew. This part of the process is governed by the player's suspension of disbelief which in turn is dependent on the game's ability to present itself as unaware of its fictional status. Clearly, this can only be the result of the successful completion of the previous semiotic operations.

As of yet, games have made only timid attempts at meta-fictionality. While self-referential elements abound in many games – such as the kitchen appliances in *Half-Life* that are embossed with the name of the game's developer, Valve – to my knowledge there is no game in which the game's designer boldly steps forward within the game and strikes up a conversation with the player. If this were to be done, however, it would constitute a clear violation of the contractual agreement between game and player, and it would cause the fictional world of the game to break down at least momentarily.

A break of this rule might have its benefits as well. In his book *More Than a Game*, Barry Atkins points out the similarities between strategy games with a historical setting and 'counterfactual fiction', i.e. fiction that deviates boldly from historical fact such as Richard Harris' novel *Fatherland*. It is only a small step from counter-factual fiction to what Brian

McHale calls 'historiographic metafiction' [6], i.e. a distortion of official history in order to draw attention to minority discourses that have been marginalized by the historiographers. The effect of historical metafiction and counterfactual fiction is basically the same: it sheds a doubtful light on the way history is represented to us, i.e. as a consistent narrative that follows the laws of causality and chronology. If such a change in the reader's world can be affected by a game, this must be seen as a form of enlightenment.

CONCLUSION

I have demonstrated that literary theory can contribute more to the emerging field of game studies than just narratological analysis. If we take games seriously as forms of fiction, we must not disregard literary studies' expertise in studying fictional worlds. I hope that this is not misconstrued as a form of 'theoretical imperialism', but rather as an attempt to integrate a concept from literary studies into the larger framework of game studies. In fact, I would like to argue that game studies have reached the era of post-colonialism: the concepts developed within the field are now mature enough to be exported back into the disciplines that games studies have emerged from.

The concept of playability presented here is one such concept. I have tried to outline ways in which literary studies could benefit from a theory of playability, but the potential use of this concept extends much further. Film and media studies are obvious candidates, and other disciplines in the humanities and natural science might follow. This is by no means an attempt to reinstate the postmodern dogma that 'everything is a game'. If everything is a game, the term becomes meaningless. But if we try to understand natural and cultural processes as games, this might lead to new insights.

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9. GAMESCAPES:
EXPLORATION AND
VIRTUAL PRESENCE IN GAME-WORLDS

Geoff King

Tanya Krzywinska

ABSTRACT
An analysis of the scope for exploration and the extent to which impressions of presence are created in domestic videogames. This paper argues that exploration is an important dimension of play in many games, whether employed in relation to other objectives or as a source of pleasure in its own right. The first part of the paper examines the relationship between freedom to explore and spatial constraint, arguing that many games offer a balance between the two, the precise nature of which varies from one type of game to another. The second part of the paper considers the extent to which different types of game offer illusions of presence in the game-world, from the distanced perspective of management and strategy games to the greater impression of sensory immersion created in games rendered in the first person.

KEYWORDS
Videogames, exploration, navigation, presence, immersion

INTRODUCTION

Games offer a number of different pleasures, including in many cases the potential to explore and/or gain a sense of presence within the virtual world of the gamescape. Exploration may be linked closely to the pursuit of goals or missions structured into core gameplay activities, in order to advance the player through game levels. But it can also include scope to move more freely within and through a variety of on-screen landscapes, a pleasure that can be indulged for its own sake. More than simply a background setting, the world of the game is often as much a protagonist, or even antagonist, as its inhabitants. This paper, which forms part of a larger work-in-progress[1], is organized around analysis of two principal dimensions of the gamescape. We start by considering the degrees of freedom offered by different games, from the most restrictive to those which offer maximum potential for exploration. We then look at the degree to which games create for the player an impression of virtual presence within the gamescape, a mediated sense of spatial immersion within the on-screen world. Our focus ranges from the large scale – the way entire game worlds are structured and rendered navigable – to closer textural detail that seeks to fabricate an impression of virtual embodiment, immediacy and presence.

[1] The paper is part of a longer chapter on the same theme to appear in the authors' *Tomb Raiders and Space Invaders: Videogame Forms and Contexts,* forthcoming, London: I.B. Tauris & Co., 2005, which also addresses a range of other dimensions and pleasures of games.

DEGREES OF FREEDOM

At the most restrictive end of the spectrum are games that afford no scope for exploration. In classic examples such as *Pong* and *Tetris*, a single fixed screen-space constitutes the entire game arena, within which the player has very little room for any activity other than that required by immediate response to the central game task. A modicum of freedom is provided by *Pac-Man*, but within extremely limited single-frame confines and heavily constrained by the need to avoid enemies. A greater impression of movement through space is provided by side-scrolling games, such as *Super Mario Brothers*, but this also remains entirely restricted. Greater scope for exploration is usually associated with games that produce more detailed three-dimensional words through which the player-character moves, although many 3D games are not designed to encourage exploration. The main action of sports games, for example, is often confined to fixed tracks or arenas. In racing games, the track defines the path to be taken. Even in off-road rally games, such as the *Colin McRae Rally* series, the scope to venture off the track is usually very limited.

In some games the player-character is carried through the game-world in much the same manner as the occupant of a theme park ride, as if on rails, hence the name given to the rail-shooter format used as the basis for games such as *Star Fox* and as a component in some first-person shooters, including the *Medal of Honor* series in which the player-character is occasionally rooted to a position such as operating a machine gun fixed in the back of a truck. In many cases, lower degrees of freedom to explore are associated with older games designed for platforms with fewer processing resources than those of today. This correlation is far from absolute, however, as suggested by the fact that the rail-shooter format is still used today in otherwise innovative examples such as *Rez*, a third-person game in which freedom of movement is restricted to left/right and up/down motions (to acquire power-ups and shoot enemy viruses and firewalls) within a predefined trajectory through the simulated space of the interior of a computer.

Capacity for exploration also remains limited in many graphically rich 3D game-worlds, for at least two reasons. Resource management is one factor, even with ever-increasing processing power, because of the demands made by other game components such as graphics rendering or the implementation of particular gameplay options. The designers of The *Lord of the Rings*: *The Two Towers*, for example, choose to limit exploration in favour of filling the game with resource-intensive movie clips and high-resolution graphics. While the franchise might have lent itself to the exploratory freedom associated with a role-playing game, the game emphasizes the digital recreation of the film's battle scenes, placing the player-character directly in scenes from the film in which players have to fight their way through an amassed enemy horde. Scope for exploratory freedom is tightly constrained throughout, the emphasis on the game being on the building and honing of the player-character's beat-'em-up style fighting skills.

Restriction should not be understood only in negative terms, however. It is also the basis for many key gameplay effects that result from channeling the player or player-character in particular directions. This is especially true of what Jesper Juul terms 'games of progression', typically action-adventure or shooter games, in which the player's primary role is to realize a pre-existing structure of events [7]. Limiting and directing the movement of the player-character is essential to the creation of pleasurable effects such as fear and suspense in horror-based

games, for example, or creating a linear narrative framework within which gameplay activities can be situated. Narrative context, along with generic associations, is often structured into the gamescape in the form of what Henry Jenkins terms 'spatial stories', embedded in the material of the game-world [6].

Many 3D action-adventure or first-person shooter games occupy a space between the extremes of restriction and freedom to explore. A pre-set path is often combined with degrees of freedom to explore around the margins. The player-character is often required to move through and investigate the game space, to progress and also to find objects such as ammunition and health power-ups helpful or necessary to progression. This often involves periods of exploration that are not necessarily fruitful, but that may be enjoyable (or in some cases frustrating, or a balance between pleasure and frustration) in their own right. Many game spaces are designed specifically to provide scope for exploration, often including excessively convoluted structures (large or small) the primary motivation for which is to facilitate spatial investigation. Examples include what the designer Ernest Adams describes as the 'strange and wasteful design' of one building complex in *Quake* [2].

The precise balance between freedom and restriction varies from one game to another, as is the case with the distinction between rules and freedom in gameplay more generally. Most games can be characterized, at various levels, by the precise balance offered between the constraints created by rules and goals and the scope allowed for 'playing around' more freely within the game-world; between what Roger Callois terms *paidea*, play in its most spontaneous and unstructured forms, and *ludus*, which suggests the rule-structure within which *paidea* is often contained [4].[2] In the classic first-person shooter *Half Life*, for example, restriction predominates. The gamescape consists of seemingly endless sequences of corridors, ventilation ducts, stairwells and laboratories, through which the player is encouraged to move in a primarily linear fashion. Some scope is given for *paidea*, primarily in the form of non-essential destruction of the environment, but little in the way of freedom to explore. *The Tomb Raider* games, by contrast, offer larger traversable spaces in which, on balance, much more time is likely to be spent in exploration. Much of this is designed to be oriented primarily towards searching for material relevant to progression, but some scope is also provided for less goal-oriented investigation of space.

In some games, the player can only move a relatively short distance from the pre-structured path, often little more than a narrow corridor of navigable space. Appealing vistas often exist that cannot be explored. In others, wider latitude is allowed, as in *Silent Hill 2*, in which quite large areas of the mist-shrouded town in which the game is set are open for general exploration at any one time. Early sequences require the player to explore the space available in

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[2] This is an issue explored at much greater length in its own right in the first chapter of *Tomb Raiders and Space Invaders*.

search of clues, but the environment can also be explored for its own sake. A different dynamic can be encouraged depending on the extent to which navigational aids are provided in games that offer some margin for non-progressive exploration. Players of both the *Tomb Raider* games and *Enter the Matrix*, for example, have some freedom to spend time in what might prove to be fruitless exploration of blind alleys. This is far more likely to occur in the former, however, than the latter, in which a large on-screen arrow points constantly in the direction to be followed in the interests of rapid progression (in a game in which the player-characters move at greater than usual speed, further encouraging a fast, linear mode of progression). Navigational aids can be crude and arbitrary, as in *Enter the Matrix*, or given motivation in forms such as maps possessed by player-characters or, during driving missions in *The Getaway*, through a simple device in which vehicle indicators signal which way to turn.

Limits to exploration can be characterized as 'hard' boundaries, absolute restrictions in the game-playing arena, and 'soft' boundaries that act as temporary barriers but that can be traversed under certain conditions (a key needed to open a door, for example; hard boundaries can also be rendered soft in special circumstances such as the use of 'no-clip' cheat codes to enable the player-character to traverse otherwise solidly rendered structures). Soft boundaries, a product of obstacles set for the player, are usually given justification through the fictional-world activities in which the player-character is involved. Hard boundaries are also given plausible motivation, as far as is possible, to avoid impressions of arbitrariness that are likely to reduce the immersive qualities of a game. This is easiest in interior settings, as Ernest Adams suggests, in which real-world spaces are also relatively small and confined by walls. In exteriors, artificial constraints are often naturalized though the use of settings such as islands or the use of impassable terrain such as mountains and swamps [1]. Where transgression of spatial limits is arbitrary, this is sometimes represented in terms that remain consistent with the particular fictional construction of the game-world: if the US military player-character strays too far from the main field of action in *Black Hawk Down*, for example, he is declared AWOL and the mission is failed; in *The Getaway*, the boundaries of the game-world are marked by realistically-motivated road-closure barriers.

Soft boundaries include the many environmental obstacles to the progress of the player-character found in games such as third-person action-adventures and first-person shooters: the precarious ledges, unstable floors and tricky jumping routines of the *Tomb Raider* series, for example. Progress through the game is also necessary to the opening up of space in strategy games such as *Civilization* and *Command and Conquer*: *Generals*, in which exploration is dependent on the movement of the player's resources across the game map. In *Civilization*, the game begins with most of the world in darkness, the contours of the gamescape and the deployment of rival powers revealed only gradually as the player sends figures out to explore by land or sea. The unveiling of new terrain has an appeal of its own, satisfying a sense of curiosity about what lies beyond the currently visible border, even in an example such as *Command and Conquer* in which it serves highly instrumental purposes in revealing the location of enemies, resources and key mission objectives.

The greatest scope for exploration is usually found in role-playing games, which fit into Juul's category of 'games of emergence', in which small numbers of initial rule-sets create the potential for a wide variety

of outcomes. Role-playing games often create large gamescapes across which player-characters are considerably free to roam at will, the largest game-worlds being found in massively multiplayer role-playing games (MMORPGs) such as *EverQuest* and *Anarchy Online*. Exploration for its own sake can be a substantial source of the appeal of such games, along with the central process of developing the capacities of the player-character and the opportunities provided for interaction with other players. Constraints still exist, however. Exploration can be enjoyed for its own sake, but only up to a point. Player-character development and/or collaborative action with other players are essential if some parts of the game-world are to become navigable in any safety. Any of the wild regions of *EverQuest* are home to monsters that pose a threat to the novice player, for example, while the Planes of Power regions are accessible only to player-characters of level 46 or above. The size and mode of implementation of the *EverQuest* world of Norrath is also such that it is broken up into separate zones, each of which has a limited number of points of entry and quite narrow confines, the boundaries of which often seem arbitrary – yet another set of mountains that cannot be scaled, for example.

The impression of uninterrupted freedom of exploration in *EverQuest* can also be hampered by the time lag that occurs when the player-character moves between one zone and another, the extent of which depends on the computing resources available to the player. This is the result of the manner in which the different geographical spaces of the game are implemented, each zone running on a separate computer as part of the cluster that comprises each of the servers on which the game can be played. In this respect *EverQuest* suffers in comparison with the less commercially successful *Asheron's Call*, which adopted a different system of load-balancing

in which responsibility for geographical areas is divided among sub-servers, the result of which is the creation of what presents itself as a seamless world that creates a greater sense of unencumbered freedom of movement [3], more akin to that found in the large but less extensive landscape of single-player RPGs such as *The Elder Scrolls III: Morrowind*. In *Morrowind*, entirely hard boundaries are found only around the outer edges of the game world, although many soft boundaries, such as cliffs and lava streams, can only be negotiated with the aid of spells such as those creating the possibility of levitation. Gameplay strategies adapt to shortcomings such as the separation of zones in *EverQuest*, however. Pursuing monsters are escaped in the passage from one zone to another, which can prompt a strategy of embarking on dangerous combat from the relative safety of a position close to a zone boundary.

Players of games such as *EverQuest* or *Morrowind* can choose to emphasize exploration over other activities, but not absolutely. Some engagement in processes such as fighting enemies and taking on quests is required if the capabilities and equipment necessary for survival are to be obtained. Exploration looms larger in the equation than in games with more restricted geographical scope, but the design encourages a balance of activities rather than any exclusive focus of attention. The same is true of games such as *Grand Theft Auto III* and *The Getaway*. Each offers a progressive, mission-based structure located within an extensively explorable contemporary urban gamescape. In *The Getaway*, players are given freedom to roam, to walk or drive around a detailed simulation of the streets of central London, but not at all times. In a time-based driving mission, for example, failure to keep pace or to keep on track leads to mission failure and the need to start again. During a shooting or stealth-

based task it is possible simply to walk out, hijack a car and indulge in the pleasures free-form driving. Exploration of this kind is often interrupted by the attentions of the police, but this can result in high-speed chases, crashes and assorted collateral damage that provides enjoyment that has no bearing on progression through the linear structure of the game. *Grand Theft Auto III* and *Vice City* offer a wider choice of activities – the acceptance of missions given to the player-character by crime bosses, the successful achievement of which leads to the advancement of the character, or the option to engage in freelance activities, such as random acts of exploration, driving, vehicle theft or violence. *The Getaway* offers a single game-space within which soft boundary restraints come and go, depending on the nature of the latest mission. Soft boundaries play a more fixed role in *Grand Theft Auto III*, restricting access to different parts of the Liberty City setting depending on the state of the player's progress through the game. At the start, for example, access is restricted to the island of Portland, a restriction given diegetic motivation by the destruction in the opening sequence of the bridge that leads to the next zone, Staunton Island, and signs announcing that the subway is closed.

Different kinds of pleasures result from freedom to explore at will and the restriction that results from a more choreographed gameplay experience. Many games offer a balance between the two, seeking to give the best of both worlds: a world that players can navigate for themselves, up to a point, and one into which a number of specific activities have been orchestrated by the designers. It is not only the balance of exploratory freedom and restriction that shapes the player's experience of the gamescape, however. It is also important to consider the extent to which, and how, the player occupies or is given a sense of presence within the game-space.

DEGREES OF PRESENCE

In some games, regardless of the scope for exploration, the player occupies a space clearly distanced and separate from the game-world. In others, the player is given an illusion of presence, of being located inside the gamescape, directly in the thick of the action. Distinctions between degrees of presence are closely correlated with differences in the visual perspective provided on the game-world. The most distanced games tend to be those that use god-like aerial perspectives. The greatest sense of presence, or immersion in the gamescape, is usually provided by games that offer the first-person perspective of a figure located within the fictional world of the game. In between are games that offer a variety of third-person views, located inside the game-world but not directly through the eyes of the player-character. Impressions of presence can also differ within these broad categories, however, depending on a number of other factors.

The most distanced and abstracted view is found in management, strategy and other 'god' games, in which players have a high degree of agency – an ability to affect events in the game-world – but little sense of occupation of the fictional world itself. The player is often positioned as a character in such games – the mayor of a city in *Sim City*, the leader of a people in *Civilization*, the general in charge of an army in *Command and Conquer: Generals* – but one that remains absent from the fictional space of the on-screen world itself. A marker of the lack of in-world presence created in such games is the frequent use of an isometric perspective, one in which parallel lines remain parallel rather than disappearing to the vanishing point familiar from conventions of linear perspective. Linear perspective, often used in first- and third-person

games, is oriented towards a single viewing position, a place occupied by the player that is directly related to the internal architecture of the gamescape. An isometric perspective presents an impossibly 'objective' viewpoint, appropriate to that of a disembodied and god-like abstract player position. Later versions of classic management or strategy games, such as the *Civilization* and *Sim City* series, offer increasing detailed three-dimensional graphics, including an ability in *Sim City 4* to look more closely at the cityscape, to detect signs of affluence or decline at the local level. A barrier remains, however, between the overhead view and any sense of presence at street level. Characters from *The Sims* can be moved into properties in *Sim City 4*, but not players or player-characters themselves. An even more detailed, close-up view can be obtained in the strategy game *Black and White*, in which players can zoom from on high to gain a point-of-view at the same level as that of the subjects of their world. The view is still disembodied, however, rather than creating any sense of presence on the ground.

Third-person games give the player a representative clearly located inside the gamescape, an avatar that acts as the player's agent in the game. A greater sense can be established of what might be termed being-in-the-game-world, a phenomenological impression of immersion in the gamescape. The sense of presence created by third-person games is least strong in early two-dimensional and isometric examples in which the player's source of representation is somewhat rudimentary: the abstracted chomping mouth of *Pac-Man* or the few pixels that constitute a spaceship in *Defender*. Filmed characters used in some two-dimensional games such as *Phantasmagoria* provide less abstract and more detailed characters, but a combination of static frames and a point-and-click mode of movement creates a fragmented and distancing impression,

characteristics also found in games such as the *Myst* series and *Baldur's Gate*.

A far stronger sense of presence is established in fully three-dimensional third-person games, in which the player's point-of-view is often anchored directly to the movement of the player-character. A more seamless experience of the game-world is created. Graphical representation is redrawn constantly to the screen, creating an impression of continuous movement through navigable space. A player-character, by definition, acts as the player's on-screen embodiment in the gamescape. The virtual camera of third-person games is mainly located behind and slightly above the character, making the player's experience conditional on the orientation of the character. In many cases the player can also move the camera independently of the player-character, swinging it around past or over the top of the character to gain a different perspective on the game-world. This is often important to the achievement of gameplay activities – getting a better sense of the relative position of Lara Croft in the landscape to perform a precise jumping maneuver, for example – but it alters the precise manner in which the player's presence is established. Character-independent movement ruptures, if momentarily, the alignment of player and player-character. A more disjunctive fracture of player/player-character orientation is found in third-person games such as the *Resident Evil* series and *Dino Crisis* that use fixed camera angles not connected to the perspective of the character. In this case, the forward movement of the character can require movement of the controller in opposite directions, depending on whether a particular image frames the character from ahead or behind, a disorienting feature likely to reduce the strength of any impression of presence.

The fact that the player's sense of being-in-the-

game- world is mediated is made explicit in third-person games, of many varieties, because the player-character can be seen, as an entity clearly separate from the player. Instances in which the character acts independently of the player – Lara looking in a particular direction, according to a preordained cue, or a player-character speaking to a non-player character – act as reminders of the distance between player and avatar. At times, players might experience a strong sense of being invested in, bound to or in synch with the character, but they never step fully into the character's shoes, entirely present in the gamescape. The player is not positioned as the direct agent of action in the game-world, a key factor distinguishing the degree to which an impression of presence is created in third- and first-person games.

Linear perspective conventions are used in many third-person games to create the impression of a world that is centred on, and revolves around, the position of the player and/or the player-character. Perspective lines that recede to a vanishing point inside the image imply a viewing position in front of the screen. In third-person games, a departure can exist between this point, in front of the screen, and the exact position of the in-game avatar within the frame. A more immediate centering of the gamescape on the position of the player is found in first-person games, in which the impression is given of a more directly subjective player experience of the game-world. First-person games bind the player more directly into the gamescape. The game-world is experienced at eye level, a viewpoint experienced as directly consonant with movements made by the player. First-person interfaces create the impression that the player can look right, left, up and down within an on-screen world that appears to envelop the player, creating a stronger illusion of presence. Hands and arms, or

a weapon held by the player-character, are often visible at the lower edge of the screen, approximating the position they would occupy if the screen image really was the subjective point-of-view of the player – an innovation introduced in one of the first three-dimensional games, *Wolfenstein 3D*. Legs and feet can also enter the screen when kicking functions are used.

Diegetic sound is also designed to centre on the player's in-game perspective, especially in first-person games and when experienced through surround-sound speaker systems or with the use of headphones that cut out extraneous sound. Sound can also be used to create an illusion of physical presence in other ways, such as marking the footfall of player-characters as they move within the game-scape. Changes in the sound of footsteps according to the nature of the surface on which they walk can heighten the impression that the avatar occupies a world of some substance, either as an added extra or a more central aspect of gameplay strategy. The latter applies to stealth games such as *Tom Clancy's Splinter Cell*, in which the movement of the player-character in the vicinity of enemies has to take into account the level of noise made by different materials, special care having to be taken on noisy surfaces such as metal or wood. In this case, the exploitation of such effects is more likely to occur in third-person than first-person games, the former lending themselves more readily to a perspective in which the nature of surfaces textures is apparent to the player.

First-person games typically provide some kind of representation of the player-character at the start of a game, and in cut-scenes, where these are used. The sense that the player's experience is mediated through the character is much less evident than in third-person games, however, especially in the thick

of the action. The first-person experience is closer to one of immediacy, although reminders of mediation can be frequent: direct address by name to the character from non-player-characters, for example, or the abrupt interruption that occurs when the player-character dies and the player is thrown out of the game-world and into the non-diegetic routines of reloading and starting again. That the third-person perspective implies a player position further outside the gamescape is underlined by the fact that the moment of death in first-person games is often accompanied by a shift into a third-person view, a withdrawal that enables players to witness the death throes of their avatar.

Even at the frenzied height of the action in a first-person shooter, with the emphasis on attack and survival, overt reminders of the mediated nature of the experience exist in the form of screen displays to which the player must remain attentive – crucial health and ammunition gauges, for example, and inventories of available weapons and other supplies. These can be switched off, in some cases, including Vietcong, for the player to enjoy what is advertised as a more 'realistic' and less overtly mediated experience. Information sources can also be realistically motivated, as the heads-up display of a helmet worn by the player-character, particularly in science fiction oriented games such as *Halo* or *Metroid Prime*. In many cases, however, whether they are overlaid directly on the image of the world or occupy a space outside, on the margins, attention to such displays impinges on any illusion of presence within the game-space.

Qualities of vision and sound are usually the most potent sources of impressions of presence in games, but an important contribution can also be made by the use of haptic feedback devices that work on the sense of touch. An ersatz impression of physical impact is quite common in the form of a shaking of the image at moments of impact on the player-character, a device that contributes to the sense of immersion in first-person games and is also used on occasion from the more distanced perspective of a strategy game, as in the case of large in-game explosions in *Command and Conquer: Generals*. Two main sources of real haptic feedback are usually distinguished: force feedback, which creates the impression of a sensation of force being imparted on muscles and tendons, and tactile feedback that stimulates nerve endings near the surface of the skin [5]. The most common forms of force feedback in games are the use of joystick or steering wheel controllers equipped with electric motors designed to provide resistance to the player's actions. This can be an effective way of increasing an impression of presence, giving some sense of real weight and mass to an experience such as pushing a racing car to its limits on a track.

Tactile feedback can also be provided through a steering wheel interface, or console controllers, in the form of vibrations designed to create the impression of driving over rough ground in a rally game or departing from the tarmac on a racetrack. The most common source of tactile feedback, however, is the vibration created by handsets such as the PlayStation 'dual-shock' controller. In many cases the effect is crude and lacking in discrimination, of only limited potency in creating an impression of presence. The same basic vibrating effect is provided for a range of very different experiences: falling from a height, being hit by a bullet or sword, or being attacked by a monster. In some cases, tactile feedback can provide a sensory impression more closely analogous to a particular on-screen activity, although this is not generally the case. In *Splinter Cell* played on the X-Box, for example, the use of a lock-pick to open doors entails a jiggling manipulation

of the left stick controller in a manner not dissimilar to what might be imagined to be involved in the on-screen act, vibrations indicating the points at which each part of the lock falls into place.

The term 'presence' is often associated with concepts of virtual reality (VR), of which games are often seen as a variant, if relatively weak in the existing scale of possibilities. If typical characteristics of VR systems are navigation of 3D graphical environments, interaction, presence and immersion, many games qualify up to a point [11]. With the exception of small number of specialized VR games, in which the player is equipped with a head-mounted display that shuts off external sources of sight and sound, games fall well short of being truly immersive in terms of sensory perceptions. The illusion of presence or immersion created by contemporary game design and technology is clearly less than that provided by VR systems in which occupants experience a sense of being entirely surrounded by computer-generated environments, often able to reach out and manipulate virtual objects with a data-glove. In a scale of varying degrees to which an illusion of presence can be created, games occupy a position somewhere between virtual reality and non-interactive screen media such as large-format cinema, conventional cinema, widescreen and conventional television.

The creation of impressions of presence or immersion is not only dependent on factors relating to sensory perception such as those on which this section has focused so far. If games create a relatively weak sense of virtual embodiment in the gamescape – or if some games create a weaker sense than others – compensation can be found in other dimensions. Terms such as presence and immersion are often used in a vague and sometimes interchangeable ways, as Alison McMahan suggests, that fail to discriminate between different dimensions of the overall game-playing experience [10]. A distinction needs to be made, for example, between perceptual immersion – limited by the technological basis of conventional desktop computer or console/television games, and in commercial arcade settings – and psychological immersion in gameplay activities, which can be very strong even where no great sense of sensory presence is involved, as is often the case in strategy games of the kind discussed above. A number of factors other than those related to impressions of sensory presence can contribute to, or undermine, the extent to which players experience a state of being immersively 'wrapped-up' in a game. Compelling and well balanced gameplay activities such as strategic management, solving puzzles, negotiating obstacles or engaging in combat can occupy the cognitive and perceptual resources of players to a sufficient extent in themselves to create an immersive state in which aspects of the external world are eclipsed from attention, an aspect of gameplay we examine in detail elsewhere.[3]

Other factors include what Matthew Lombard and Theresa Ditton, in a review of studies of presence

[3] *Tomb Raiders and Space Invaders,* chapter 1

across a range of media, term 'content variables' and 'media-user variables' [9]. Content variables in games include elements such as the degree of surface realism with which the gamescape is rendered, but also, and often more importantly, the degree of consistency with which the game-world is constructed and how the player can act in and act on the virtual environment. Inconsistency – the fact in *Primal*, for example, that one player-character can scale walls, but only some, or that some walls can be blasted to rubble in *Red Faction*, but not all – is one of the greatest threats to the creation of impressions of either immersion or presence. A sense of agency in the game-world – the ability to affect its contents in ways at least to some extent approximate to the equivalent in the real world – can be a major source of impressions of embodied presence. Agency can only ever be limited, however, and is usually directed towards the performance of particular gameplay tasks. Media-user variables include important factors such as the degree to which individual players are willing to suspend disbelief, not to be distracted by elements that might reduce the impression of presence, and the player's familiarity with the medium [9]. An experienced player, familiar with the nuances and full scope of a game or a game-genre, might also be expected to get more 'into', and get more out of, any particular title. The social dimension of gameplay can also contribute significantly to its immersive and engaging qualities, especially in multiplayer online games such as *EverQuest* which create what Lisbeth Klastrup terms a virtual social world, 'both something imagined, something "fake" (something pretending to be real, as we know it from realistic fiction) and something lived in, an actualized reality we create, inhabit and share with other people […].' [8]

CONCLUSION

Degrees of freedom of exploration and the extent to which an illusion of presence in the game-world is created are significant aspects of games, although they need to be understood in the context of other gameplay activities and attributes. A negative correlation might be expected to exist between the two, other factors being equal, if only because of the resource demands imposed by both extensive scope for exploration and the creation of a stronger sense of embodied presence. This is not necessarily the case, however, given the limited extent to which most games invest in anything more than a relatively minimal sense of sensory immersion. Games such as *EverQuest* and *Morrowind* that offer large-scale scope for free exploration can be experienced in either first or third person modes, which suggests that the greater degree of presence created in first person is, in these cases and many others, a neutral factor in terms of data and processing resources. A stronger investment in sensory embodiment – extensive use of more discriminating haptic interfaces, for example – might alter the equation, but this is not generally the case in contemporary games. Freedom of exploration can certainly be a factor in increasing the sense of presence created by a game, reducing at least one form of what can seem like arbitrary restriction. Games that create stronger impressions of presence are not necessarily those in which exploration looms largest, however, although they may make exploration a relatively less abstract-seeming experience.

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10.ON THE BORDER:
PLEASURE OF EXPLORATION AND COLONIAL MASTERY IN CIVILIZATION III PLAY THE WORLD

Sybille Lammes

ABSTRACT

Games like Myst, Civilisation and Anno 1602 are centred around the virtual travelling of the gamer through unknown worlds. The voyage s/he undertakes often hinges on notions of colonialist exploration, turning the gamer into a traveller who surveys and masters unknown domains and learns to control techno-scientific principles along the way. Since such games are related to a mentality of colonialism, questions should be asked about how such games can be located in its discursive formation. This paper will shed light on these questions by analysing Civilization III and my experiences of playing this game.

The past is always altered for motives that reflect present needs. We reshape our heritage to make it attractive in modern terms; we seek to make it part of ourselves, and ourselves part of it; we conform it to our self-images and aspirations.
(David Lowenthal, The past is a foreign country)[20]

NO-MAN'S-LAND
Leader 1

I hear the sound of wind and see some desert soil. As if a camera moves forward while staying close to the ground, more landscape comes into view and I am taken past a vast surface with palm trees and loose stones scattered on it. Then an estuary comes into sight. I can see ships sailing and people moving on the quays. A group of seagulls flutters up, uttering shrieks of alarm, as if they are disturbed by my presence. To the left of the water, two small towers stand with fires burning on top of them. They must be beacons. Behind the beacons I can distinguish a round building, partly shrouded in mist. It is clearly under construction since half in scaffolding and surrounded by some dispersed building stones. Or is it falling to pieces and am I looking at a restoration? Now the view tilts to the right and spirals up, turning around the building. It reminds me of the painting of the tower of Babylon by Brueghel, but then it is comprised of an accumulation of different architectural styles: starting off with the big stone blocks at the bottom, the tower consists of classical Greek, Roman and Gothic style elements, ending in a glass mirror walls at the top that look like part of a skyscraper. Judging by the hoisting crane that stands at the very pinnacle of the building, the construction is not finished yet. When the spiraling 'camera' has reached the summit it tilts even

higher to a half-clouded sky. Suddenly a plane flies into view from the right, making a roaring sound. A title is superimposed over the again empty image of the sky: *Sid Meier's Civilization III*.

Leader 2

A male looking foot lands in the mud and leaves a footprint. The colour of both mud and skin are of a light brown shade. The shot travels forward, staying close to the ground. I hear the sound of water and a river comes into sight. On the riverbank a woman is retrieving water with a bowl. The shot moves on, still showing the landscape from a low level. Now I can see more legs and some huts with thatched roofs. A slightly stooped man leaning on a stick comes into frame, while another man enters a hut. Behind the huts a road can be discerned. The long track continues to the road, where a cartwheel comes into view, followed by a fireside and more male legs. In the next shot more legs follow, now seeming to belong to marching soldiers on a flat dry surface. I cannot see their faces or upper bodies, but their uniforms suggest that they are part of a Roman legion. In geometrical movement the legs march to the right, come to a halt, and then moves towards the player/viewer. The camera journeys through the rows of legs and sweeps up some steps.

At a similar speed the next shot trails through a muddy field in which poles with sharp points are planted in disarray. Still from a low position I see hairy legs and hear low human sounding grunts. Men are fighting using shields clubs as weapons. A heavy wooden vehicle enters the battlefield. The following shot shows a long dry stonewall with green trees behind it and a field in front of it. Soldiers seek shelter behind the wall. I can see their faces. They hold muskets and seem to be wearing uniforms from the time of the so-called American Revolution. They fire their guns while some of them simultaneously jump over the wall.

Now a shot follows where things are seen from above. Again travelling forwards, my eyes pass over cauldrons filled with red boiling liquid. I can look over a railing into a deep space, which seems to be a factory. A slight feeling of vertigo steals upon me. I can see a lump of heavy looking material rigged up. It obscures the view for a moment and the computer screen turns black. Then I can look into the immense space beneath, where a big conveyer belt is in use and people are pushing trolleys.

Another shot of a plant follows. I am at first not sure whether the pillar construction, through which the shot takes me, is of yet another factory building. Then it is becomes clear that I am taken to a different place: I can look upwards and see a space rocket. The title of the game is superimposed over this last image: *Civilization Play the World*.

Liminal scenes

The above-described scenes stem from *Civilization III* (Civ3) and its follow up *Civilzation Play the World* (Civ3PtW). When the player starts the game up they follow immediately after the logo's of the company.
They are a no-man's-land between playing and not playing the game. The player can at this stage only watch or glance at the screen in a passive and maybe slightly distracted way. Referring to the title of this paper, they bring you both to the border of Civ3 and are bordering on the game-world and other-worlds. When you have passed these landscapes the game can begin and you can become a true player who has some control over the game. These transitional landscapes whet the player's appetite and make promises about what is to follow. They give an indication of what to expect when entering the game. As such they are steeped in references that are important for understanding the cultural meanings and the rules of the game.

Civ3

Voyage to the sky

By starting off both leaders with a trailer/pan/ crane shot the spatial mobility of the game and the omni-presence of the would-be player are immediately emphasised. Travelling and expansion are thus established as important parameters of the game and of the player's activities.

In the Civ3 leader which I first described, the voyage centres around the travelling to, and swirling around one high rising building. While the view starts at a low level it ends high up in the sky above the building. At the beginning there is nothing, just soil that looks like desert sand. Then some vegetation and the first human remnants (building blocks) can be recognized. For an instant, at the riverside, human activity can be discerned. Then these activities make place for a long spiraling shot in which only traces of past human activity are shown: starting with remnants of what seems to be an Egyptian construction and ending in the present conception of Western Modern architecture. At the very end of the shot human activity can be discerned once more when the plane comes in view and the tour is brought to a close by the title of the game: Civilization.

It is more than clear that the aspirant player is presented with a concise and rather linear history of Western culture through this sightseeing tour. The tower functions as a monument of the genesis of Western civilization, a locale that the player is invited to visit, to build and to explore. It forecasts a voyage in which the player starts with nothing but barren land and ends at the pinnacle of white modern Western culture. This culture and the progress of the player are imagined as an evolution from nature to culture in which specific past civilizations are literally envisaged as building blocks for modern Western culture.

Tower of Babel

By making a reference to the biblical story and image of the tower of Babel, a contradictory and paradoxical message about civilization is brought to the fore. On the one hand this alludes to the Judeo-Christian creation myth of the Babylonian attempt to build a ziggurat to reach God. According to the bible, this brought about the interference of God who prevented this blasphemous attempt by letting the builders speak in different tongues. It resulted in the scattering of people over the world, where those with the same tongue formed separate groups.[1] Hence this Babylonian image gives a Christian aura to the game that normalises demarcations between cultures. The player is invited to a Christian voyage in which the homogeneity of a specific culture seems to be right and unquestionable.

On the other hand one shouldn't forget that the tower of Babel in Civ3 is far from a uniform piece of work. As a contemporary *creative anachronism* [19], it promises a re-writing of the Biblical story. Viewed in this light, this tower of Babel entails a sacrilegious dimension, altering the genesis. In this new book of life different 'languages' are involved and are the key to a higher Christian civilization. They all serve however a monotheistic western culture that is presented as the pinnacle of a stable and progressive civilization.

Civ3PtW

While the voyage through time in the former leader takes place in one shot spiraling up to the sky, the leader of Civ3PtW contains more shots that show different areas and eras. However when juxtaposing all shots, a similar movement from down to up can be distinguished and a similar linear narrative seems to unfold, this time stripped from it Christian overtones, while in a way more conservative.

This leader also starts with a barren landscape, but

this time it does not take long before human presence comes into scope. A foot leaves a footprint: the beginning of travel, narrative and history. Shortly after this, a settlement is shown that seems to be based in pre-historic time. The hut, the wheel chart and the fire are marks of the human culture of the settlement. Hence the beginning of civilization is being related to settling down and the 'invention' of fire and the wheel. Time goes fast and the next three shots take us from a Roman legion to a chaotic and medieval battlefield, ending with the American civil war. Then humans leave the landscape, while we are taken through the industrial revolution. The last shot show us astronautics as the last stage of human development. Analogous to the tower in Civ3 the sky is the limit.

While the voyage up to the tower did at least leave some space for paradox and anachronism, such possibilities are now more limited. The history of civilization is not only presented as linear and uniform instead of heterogeneous[23], but also as a white and male process. Giving the people in the first settlement a mixed colour and gender maybe a feeble attempt to leave space for ambiguity, neither referring to the Black Eve theory or to the contested idea of white Europe as the cradle of civilization. But this rather doubtful strategy does not hold up for very long. The people in the following shots are all white and male, both suggesting that this is the main targeting group of the game as that they were the main players in history. Furthermore, since these men use technologies like tanks and guns, techno-scientific progress and the military apparatus are strongly linked to their historical progress. Thus the game promises to replay a myth in which non-westerns and women are not part of cultural history, but belong to nature and therefore cannot be seen. A myth in which expansionism, science, masculinity and whiteness go hand in hand and are naturalised.[12, 24] Indeed, playing the world promises to be a very particular enterprise.

But let me remind you that we are still in no-man's-land. Some expectations may have risen, some rules predicted, and some roles suggested. But identity politics change and become messier once you have crossed the border and you enter the world of Civ3 to become an active player.

ENTERING THE WORLD

To enter the real game and become a player, I still have to fill out some forms at the frontier. So I press a button after the leader, indicating that I want to start a new game. On top of the screen it says, "Choose your world". Underneath this virtual signpost I have to indicate some preferences. It makes me a bit nervous ("me, playing the world?") but also eager about what will happen after the form has been completed. I turn the repetitive sound down.

There are several options that I can choose from: "World size", "Barbarian Activity", "Climate", "Temperature" and "Age". I decide for a standard world with a lot of islands that are warm and wet. What keeps puzzling me however is what the category "Barbarian Activity" may mean between all these geographical classifications. So I reach out for the manual. It says that, apart from the random option, there are four "levels of Barbarian activity" to choose from: I can opt for "villages" if I "really hate Barbarians", in which case the Barbarians are "restricted to their encampments." The other levels are gradually giving less "restrictions" to the Barbarians, ranging from "Roaming," and "Restless" to "Raging". The latter most difficult level is explained as follows in the manual: "You asked for it! The world is full of Barbarians and they appear in large numbers." Daunted by this last description, I opt for Barbarians that are "roaming", in which case "settlements occasionally appear". [16]

The Barbarian tribe is introduced as being part of a

larger category that mainly consists of geographical and geological options. Hence Barbarians are introduced as belonging more to nature than to civilization. This implication is further reiterated by the fact that the term Barbarian has become a current synonym for savage, inhumane and beastly behaviour. Thus a strong association is made between the modification of natural settings and controlling these Barbarians. Furthermore, they are seen as more controllable when they cannot move and are confined to their settlements, hence making their degree of movement correlative to how dangerous they are.

The equation that the player has to make between the Barbarian's level of nomadic activity and the threat they pose, points to a western mentality in which nomadic behaviour is placed on the periphery of culture as the 'other'.[6] Furthermore, that they are grouped together with non-human categories such as climate and age, indicates that their wildness can also be related to a specific western metaphor of science. As scholars like Merchant and Harding already stated in the 80's about the relation between gender and science, in western metaphors of science the 'other' is often conceived as raw material that has to be explored and controlled. The 'other', which meanings mostly fluctuate between non-white, woman and animal, is seen as wild and passive material that has to be controlled, tamed and scrutinized. [12, 21] Although I would not go as far as subscribing to the conclusion of Harding and Merchant that this ideal can be seen as part of a masculine scientific epistemology, in the game this scenario is indeed set up. Not only are the Barbarians presented as a wild tribe which has to be controlled, they are also presented as similar to scientific measurable entities, hence presenting them as the subject rather than the object of science and firmly situating them outside civilization, i.e. outside culture. The game thus subscribes to a western ideal in which scientific and colonial endeavours are closely

intertwined.[24]

Passing

Having ticked the boxes on the form, the game can finally start. At least, that is what I think. But a new screen pops up called "player set up" and another form has to be filled in. I clearly haven't understood the bureaucracy of this world yet. This time, the options on the screen are dazzling and I flick frantically through the manual for help. I have to choose my civilization and rivals from a row of about twenty options, which 'qualities' are summarized in terms like "industrious", "expansionist" and "religious". It strikes me that the manual indicates that in a expansionist cultures "Barbarian villages are more lucrative" and that religion makes anarchy last one turn". [16] But I cannot fathom the consequences of these qualities yet and have to concentrate on choosing from all the options on the screen. The civilizations range from Romans to Koreans and Americans. It makes me wonder how all these cultures from different times can figure in one game. I can choose one of the civilizations as mine and a max of five others as rivals. I am looking for the possibilities to choose allies as well, but no such option exists. On the screen I can also tick more than ten "Game Rules". Since I am not so keen on militaristic games I choose to un- tick the box "Allow Military Victory". The others rules range from "Accelerated production, to "Capture the Princess" and "Allow cultural conversion." I am curious about the function of the princess amidst all these rules and choose for that option. All decided upon, I press the button in the right corner.

PLAYING THE WORLD
I am an Aztec Indian

The next screen is mostly black with a little patch of green land in the middle. I must have finally crossed the border. The depicted patch of land is seen from a slightly tilted birds-eye perspective. I can see also see

a figure with a white long dress standing in the middle of it. She must be the princess. Some information is summarized in a pop-up box on top of the screen:
It is the year 4000 BC. Your ancestors were nomads. But over the generations your people have learned the secrets of farming, road building, and irrigation and they are ready to settle down.

The choices that I have made previously are also summed up in this box. I am an Aztec Indian and my name is Montezuma. As a despotic ruler I have three enemies: the Americans, the English and the Spanish. It also states that my people are "militaristic and religious" and that they "have invested absolute power in" me, expecting that I can establish "a civilization that can stand the test of time."

Moving territory
When I click the pop-up box 'away' a new figure enters the screen, right at the spot where the princes stood, as if she has disappeared into thin air. The superimposed figure looks more muscular and wears a military looking green uniform. A white circle surrounds him. In the right down corner a new pop-up indicates that this is a "settler". It also specifies the year I live in, the kind of terrain I occupy and the civilization of which I am the despotic ruler.

In the left corner another box shows an even smaller little spot of green surrounded by black. When I move my mouse over this image, the bigger green patch on the screen also shifts. I figure that this is a kind of map. On the screen I can also distinguish some buttons with symbols: three in the upper-left corner and at least five in the bottom-middle of the screen. I point my mouse to the buttons and I learn that the ones on top of the screen are pointing to the world outside the game, i.e. they can be used for saving and quitting the game as well as to consult the Civilopedia, the help function. With the aid of the manual I understand that

the ones at the bottom are meant for actions within the game, such as building, exploring and military actions. I choose the symbol for "building" from the latter row of buttons and call my first city Mestophile. A city with some buildings emerges on the green patch of land. A depiction of a female head is shown underneath the city-landscape. When I try to understand what this head means by clicking my mouse on it, it only prompts the head to change into that of a veiled woman accompanied by a smiley symbol. Around Mestophile all kinds information appears. It mainly seem to concern details and statistics about the situation of my state in terms of military and cultural progress and production.

Overwhelmed once more by the overload of information, I turn my attention to a new figure that has emerged in the middle of my city on the spot where the settler used to stand. It is a male looking "worker". Like the settler who built my city, he is enclosed by a circle. This appears to mean that I can 'activate' him. And indeed, I am able to move this figure with the help of my mouse towards the vast dark area around my city. The darkness he enters subsides to make place for more landscape with mountains, lakes and trees. This is fun: I can send my people out to retain land from oblivion. Since I can now see the princess again and since she also has a circle around her, I try to move her as well. This does not prompt her to shift however. It only activates her to give off a giggling sound. As if I tickled her.

As is suggested by the computer, I press the spacebar. Then I decide to build a mine and send my worker just outside the city borders (marked by lines) and click on the symbol for mining. He starts to dig. A head looms up, accompanied by a text: "Sir, the borders of Mestpohile expand because of his high culture." Indeed, the square around my city has widened. I begin to wonder what is meant by 'culture', the more since I

only have built a mine so far, so again I turn to the manual, that states the following: "Culture represents the impact of your civilization 's customs, art, and philosophy in the countryside surrounding your cities, and is represented by borders". I am quite proud of having achieved this so quickly.

I have another helper by now, a "jaguar warrior" and I send him out to explore some huts that I can see on the territory outside my land. As soon as he arrives at the spot the huts disappear and a pop-up informs me that "the Zapotec tribe has taught us pottery." Curious what this is supposed to mean in term of civilization, I turn to the Civilopedia. It shows a "tech tree" that consists of all kinds of "inventions" and indicates how these are related to each other. In this tree-like structure pottery is connected with an arrow to mapmaking. A bit puzzled by this, because I thought that I was in the process of making a map already, I look for extra clues in the manual. The subsection "Climbing the Technology Tree" explains that this is a "tree of advances" and that by choosing "a line of pursue" carefully, new "discoveries" will be eventually announced by my "chief investigator." This is interesting: I just have to set goals and my scientist will automatically make "discoveries". [16]

In a time span of about five minutes of playing the game, I haven't only learned a lot about the basic rules and required skills of the game, but I have also had a lesson in how these parameters are connected to cultural notions. The imagining of borders seems to be pivotal in this framework.

Borders are meant to expand in Civ3, that is if you want to win. As the scholars Jenkins and Fuller already noted in 1995, this ideal of expansion can be related to a western colonial "metaphor of discovery." Discussing Nintendo and cyberspace in terms of travelling and new frontiers, they locate this metaphor in a specific American nostalgia for the past when white settlers colonized America. Replaying this metaphor is according to the authors a means to counter "a contemporary sense of America as oversettled overly familiar and overpopulated" and to satisfy "the desire to recreate the Renaissance encounter without guilt." [11]

Although, this American nostalgia for new frontiers and open spaces is undoubtedly part of Civ3's attraction, the game has a more 'global' and complex meaning as well. One can distinguish two kinds of borders in Civ3: the obvious borders around the chosen civilization, and the borders which separate the filled in territory from the unknown and untouched black space on the screen. Both borders share the quality of shifting, or more precisely expanding when the game is played well. Hence the exploration of the world goes hand in hand with the expansion of your own realm. This fits seamlessly into a European colonial attitude towards homeland and colonies. In this view, colonies function as a primitive resource that should expand to enable the homeland culture to expand, yet not being fully recognized as part of it. In the game this stance is for example reiterated by the fact that you can visit a village of huts outside your domain and absorb their knowledge or culture to bring it back 'home' and expand your borders, whilst the village itself still not belongs to your territory and simply disappears when it has lost its function. Seen in this light, Civ3 also entails a pleasure in playing the old fashioned European (male) colonizer who expands border by mapping the outside world, hereby simultaneously strengthening the borders of his own metropole. Civ3 thus bears on several white western histories of exploration and expansion at once and can therefore better be called a postcolonial game.

As the participatory observation above shows as well, this enterprise is more linked to space than to time. As Jenkins states for Nintendo and Friedman for Civ2, it

can be best described as a "spatial story" in which there is a continual "transformation of place into space, as the blackness of the unknown gives way." [10, 11] According to Friedman this retreating blackness can also be connected to a new sensory 'digital' and cybernetic experience in which the player identifies more with the map, always playing from a "God's eye perspective" than with characters: "Simulation games are maps in time, drama's which teach us how to think about structures of spatial relationships".[10] Friedman may have a point when it concerns identification in games compared with identification with characters in film and television, although also then it should be added that the identification processes in these 'old media' have a cybernetic side in the sense that the user/viewer identifies with an apparatus.[15] What he however forgets is that such an omnipresent position is at least analogous to the position of the player of board games which involve spatial strategies. Furthermore the "way of seeing" he talks of, can also be related a wider western discourse of the visual that strives to represent a Godly perspective and which genealogy has roots in Renaissance western painting and is in that sense is not just new. [5]

The mapping and making visible of unknown spaces maybe partly understood in terms of a shifting sensory perception, it surely can also be related to a postcolonial mentality. As Douglas argues in relation to American history and Civ3, it is a way to cope with a paradoxical colonial past, in which the occupied land is described as virgin land – hence uninhabited – despite the peoples that already live there. By labelling these natives as wild and belonging to nature, they become invisible and unthreatening. According to Douglas this way of coping can also be discerned in the the way Barbarians pop up out of nowhere, as well as in how the villages with "goody huts" disappear once they are explored [8]

But again, I'd like to de-Americanise this interpretation slightly. As I have shown, the wild unknown and unpredictable can also be related to a more broad and complex Western historical attitude in which non-settled cultures are conceived as outside culture and are not capable of building their own tech-trees. The trailer at the beginning of Civ3 doesn't deliver false promises when it comes to the ethnocentric view the game has on civilization: it starts when one settles and expands, meanwhile appropriating the cultural and economical capital of others in a unmarked and white norm.[17]

That the game refers to a colonial past and does so by emphasising space is clear. But it does something more with this past than just replaying it in a safe way. It reshuffles it. This reshuffling can be seen in its temporal representations. As an Aztec leader I can have Americans as enemies and develop space travel. Time is a slippery thing in the game and history is not what it used to be. This fluidity of time may be linked to a postcolonial and contemporary disorientation of belonging. At a time were great groups of people from mainly poor countries have migrated to the land of former colonizers, history cannot be easily retold in a singular way. Civ3 show this postcolonial bewilderment by making time anachronistic. It nevertheless counters this unsettled feeling by emphasizing the uniformity within borders and making space and nations unproblematic categories. It thus still strives to overcome this heterogeneity of civilization. Seen from this perspective space is represented as in accordance with dominant ideologies, whilst time has a more unstable character in the game and is played out differently. It is at this temporal level that culture becomes messier and paradoxical qualities of postcolonial cultures seep through.

CHANGING THE WORLD
Civ3 offers the player opportunities to experience the highly contested ideology of appropriation and colonial

expansion in a place outside daily life [7]. To a great extent its encoding is pushing the player into a dominant postcolonial structure. But as the above account of time, as well as my analysis of the tower of Babel show, the game also presents opportunities to twist make fun of, or doubt this myth. Such possibilities arise more than once in Civ3. I can be a leader of an ancient culture and beat the Spanish colonizer, thus changing western history. Moreover, the unbridled megalomaniac and militaristic thrust of Civ3 and the 'incorrect' jokes that pop up, can at times be ideologically over the top and absurd. It is at these moments that the game can turn into parody or pastiche and ideology is de-naturalized.

The notions of pleasure as coined by Fiske may help to understand this side of the experience. Pleasure then relates to the possibility of the player to converse with ideologies and change their meanings, i.e. decode the game differently. [4, 18, 26] As Saxe phrases it in his article on games and violence:

> (...) it is like a postmodern power ritual, where players gain a visceral sense (...) without ever actually doing a thing, except spending their money, focusing their eyes and playing with a few buttons and a joystick. [25]

Most players will visit the world of Civ3 as such a power ritual: not changing ideologies in a subversive way, but expressing and tasting a post-capitalist power in a cathartic pastiche of the postcolonial world.

The landscape of Civ3 can also be appropriated in a more drastic manner. This happens when gamers make so called mods and patches.[15, 22] More than often such changes are quickly incorporated in new releases of the game, thus changing from subversion into co-modifications.[13-15] However, some of these changes remain too 'shocking' to get included. Amongst the many websites dedicated to the game, there is for example one that offers a Guerrilla modification pack,

including Palestine with ''suicide bombers'' as a special unit.[3] Another site proudly announces that the patch in which Hitler is the leader of Nazi Germany is now also available for Civ3.[2] How problematic or sick such alterations may be according to some of us, they do point to the limitations of the game and what really remains shrouded in darkness. Their makers being illegal immigrants who threaten to change notions of civilization.

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11.FROM TEXT TO TALK:
MULTIPLAYER GAMES AND VOICEOVER IP

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ABSTRACT

The social experience of multiplayer gaming is mediated by the communications tools that are available to use. Until recently, these have been largely text-based, but with the advent of new voiceover IP tools like Roger Wilco and Xbox Live, voice-mediated communication is becoming increasingly common. We present three studies of multiplayer gaming, where we analyse what happens in terms of the social experience when players are given the opportunity of talking to each other rather than texting. To do this we use a conceptual framework called FFIPS, which stands for Form, language Functions, Identity, Presence, and Social protocols. Our findings show that voiceover IP for multiplayer gaming appears to be well-suited to supporting a distinctive and enjoyable social experience, both by providing high 'presence' (i.e., increased energy, engagement and vividness), and by revealing information about players' real identities.

KEYWORDS

Multiplayer games, voiceover IP, voice-based communications, text-based communications, social experience

INTRODUCTION

The scaling-up of computer games from single-player to multiplayer has meant that gaming can now offer an experience that is quite different from that of playing alone against a computer. Rather than an individual pursuit, multiplayer gaming has become a social experience - one that can constitute a 'social pleasure' [7].

The nature of the social experience of multiplayer gaming depends on a number of factors, including connection speed, whether players are co-located or distributed, how many people are involved, who they are, and whether they friends or strangers. The type of game is also important. There are many, ranging from 'role play games' (RPGs), where players can become characters on a quest, through 'first person shooters' (FPSs), which involve fighting against opponents in war settings, to race games, and beyond.

The majority of contemporary games feature detailed, realistic 3D virtual worlds that players navigate through as an avatar. Within these worlds,

depending on the type of game, players need to communicate with each other for several reasons including discussing strategy, calling for help, commenting on performance, or just chatting. Until recently, communications were text-based. In RPGs, conversation appeared as text boxes above avatars' heads. In FPSs, scrolling text strings would allow one player to do things like congratulate another on a kill, or give information concerning their location.

With the integration of voiceover IP into computer gaming, players can now use tools like Roger Wilco and Xbox Live to talk to each other, making text communications unnecessary. This new development has left games producers eager to sell games not just for entertainment value, but for their potential to enable players to interact with friends in new ways, meet new people, and even form new relationships [15, 16]. The aim of this paper is to gauge the extent of that potential by examining how the ability to talk, rather than text, affects the social experience of multiplayer gaming.

To make our analysis, we use a conceptual framework called FFIPS, which stands for Form, language Functions, Identity, Presence, and Social protocols. This is a set of concepts we have found key in our research into how different types of communications tool affect the activities they support. The purpose of the FFIPS framework is allow us to compare different kinds of talking in different kinds of game settings, and to relate this research to the wider context of computer-mediated communication and collaboration.

TEXT- AND VOICE-BASED COMMUNICATIONS TOOLS: AN OVERVIEW

Research into the issue of how voiceover IP impacts the social experience of multiplayer gaming, and how this might differ from using text, has only just begun. Here, we review relevant related research in CMC (computer-mediated communication), MUDs (multi user domains), and CVEs (collaborative virtual environments) – as well as looking at recent work on text communication in multiplayer games.

CMC and text-based communications

Computer-mediated-communication tools, which have been largely text-based, have attracted much attention over a number of years. A significant research question has been how these can affect and change the nature of communicating and socialising. An important concept in CMC is 'social presence'. This concept originally referred to the notion that communications that are not face-to-face cause 'psychological distance', which reduces sociability [9]. More recent work argues that social presence is the degree to which a human actor can be perceived through CMC [3, 5]. All these approaches share the assumption that CMC involves attenuation of the communicative resources available in face-to-face interaction, with effects on the social experience.

An early extension of social presence, reduced social cues ('RSC') theory [10] argues that in communicating face-to-face we make use of a number of verbal and non-verbal social cues. In CMC, there is an absence of visually transmitted social cues, and this can lead to 'disinhibited' behaviour, for example e-mail 'flaming' where people exhibit greater aggression or frankness than they would face-to-face. According to RSC, the reason this happens is that because interlocutors are not visually present to each other, they are more self-oriented and less aware of others. This raises concerns about how people may misrepresent themselves through online behaviour using CMC with possibly detrimental results.

In contrast, more recent research suggests that reduced social cues can have marked positive effects on the social experience of CMC [13]. The physical

absence of the interlocutor can lead to reduced self-presentation concerns that can allow people to more easily self-disclose, and others to reciprocate. This can set up positive feedback loops, where intimacy rather than hostility occurs.

These findings suggest that text-based CMC can have a direct impact on the social experience of interacting with others online. The anonymity, increased awareness of self, and reduced awareness of others associated with CMC can change how people communicate. In particular, CMC can lead to alterations in identity compared with face-to-face interaction, not only in regard to how people present themselves, but also how they perceive others.

Text-based communications in MUDs

Writers like Turkle [12] and Reid [8] raise a new question for CMC: what happens when people, rather than presenting themselves in different ways than they would in face-to-face situations, make use of the properties of CMC to create radically new identities? Their research into text-based MUDs has important implications for social experience. According to this, people can create parallel identities that enable them to construct and experiment with sexuality, race, gender and power. These identities may be validated online in ways which make the social experience powerfully attractive. However, here, the construction of identity becomes less an artefact of the attenuation of cues in face-to-face communication, and more a complete departure from what might hold in face-to-face 'reality'.

Voice-based communications in CVEs

In recent years there has been much research into collaborative virtual environments (CVEs). These are three-dimensional virtual worlds that can be used for a variety of purposes including collaborative performance, meetings, and work.

They often include avatars to represent participants, and can feature voice-based communications tools. Research in this area might help us understand how voice-based communications tools work in virtual worlds, an issue very relevant to multiplayer gaming.

Bowers *et al* [2] look at how talk and embodiment function in CVEs designed for meetings. They note the problem of discontinuity between avatars and voice-mediated communications. According to this research, people find it hard to take turns, preferring to wait for others. Embodiments can be used as ways of signalling to others that they may speak (for example, through turning and facing), but can tend not to be, so that verbal means like 'scanning' – using talk to find out who is online and who wants to speak – are required. This reflects a lack of coupling between avatar actions and verbal actions.

Studies of work mediated by CVEs help reveal what sort of coupling between the virtual world and people's spoken interaction needs to occur. For example, Tromp's HTA (hierarchical task analysis) [11] aims to uncover what kinds of generic tasks collaborators need to be able to carry out in work settings. These include turn-taking, shifts in avatar proximity, shifts in avatars' relations to artefacts including virtual documents, and indexicality (the ability for the avatar to point something out and refer to it using context-dependent cues like 'here', 'there', 'that'). Such research implies that for an effective social experience to take place, talk needs to be integrated with avatar actions in ways which can restore the postural, gestural and proximity information that embodiment provides. Talk is also needed to help mediate collaborative performance art. This can include the interaction of real people with avatars in virtual spaces [1], which requires a high level of 'orchestration': the interaction presents

levels of challenge which make a production crew and assistants necessary.

This research on various types of CVE shows that integration between task, visual representations (including avatars, documents, furniture etc.), and communications tool is challenging. How the communications tool works (or does not work) is strongly related to these other factors. Thus, we might expect to see interdependencies in multiplayer games, too.

Text-based communications in multiplayer games

The research discussed so far does not look directly at the social experience of computer games. However, it suggests several ways to look at text-based communications in computer gaming, and ways it might compare with voice-based communications. Questions that arise include: Does text mediation in computer games lead people to present themselves in different ways than they would face-to-face, or does it allow the creation of radically new identities? How does a specific type of game affect it?

Recent research into text messaging in FPSs [6, 14] has started to reveal innovative types of talk particular to this gaming context. These include creating new kinds of alias such as 'Smoke Weed and Kill People'; 'Mark Killer'; 'Osama Yo Mama', and so on. This is evidence of identity management which, rather than departing from reality, can engage current social concerns in ways designed to shock others (e.g. drugs, crime, terrorism). However, this research shows that other types of behaviour occur which contradict the notion that FPS players want to transgress social norms. Much talk is highly skilled, concerning the giving and eliciting of tactical information, elicitation of levels of expertise of other players, discussion of technical issues like lag

(whether there is delay in graphics display), and even 'policing', whereby gamers that transgress gaming etiquette are rejected or 'kicked off'. Other talk is 'creative', including joking and irony, collaborative rule-changing, popular culture references, or 'performance talk', concerned with things like greeting, discussing strategy, congratulating, scorning and so on. This research shows that, notwithstanding the creation of novel aliases, text-based communications in FPSs are often directly connected to players' actual levels of expertise and experience.

This short overview reflects that text-based communications in computer games are highly developed as well as variegated. The forms of communication that take place seem to depart from the issues we identified that affect both CMC and MUDs. Texting in FPSs does not appear to lead to exaggeration of hostility or intimacy, and appears to be associated with more modest identity creation and experimentation than can happen in MUDs.

THE FFIPS CONCEPTUAL FRAMEWORK

Our literature overview reveals several issues related to different communications tools when used for a variety applications and activities, with different effects on the social experience. These issues provided the basis from which we developed our FFIPS conceptual framework (see Figure 1).
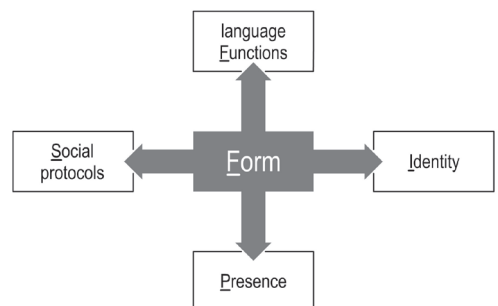

Figure 1: The FFIPS Conceptual Framework

Form is at the centre of the FFIPS framework. This concept is used to define (a) the type of communications resource, for example a text messaging interface or a voiceover IP tool; and (b) its context. Is it, for example, part of a MUD supporting an RPG, or of a CVE to support collaborative performance? We also use four other concepts: language functions, identity, presence, and social protocols. All of these are influenced by form, reflected by the arrows. What are these concepts and why are they important?

Language functions include, for example, greeting, persuading, supporting, etc. This concept relates to how people get things done socially by means of talk. Its use in the framework is to help identify where a communications resource enables or disenables this; and how the social experience is affected.

Identity is an important issue across much research concerning communications tools. In FFIPS it is used to consider how the social experience of is affected by how far a communications tool allows identity to be exaggerated, managed, created, or perceived.

In the FFIPS framework, presence has a specialised use. It refers, like the concept of social presence, to how far social cues are preserved by the communications resource. In addition, it is used to consider how far a communications resource contributes to immersion in a convincing virtual world, and also to how vivid, energised and engaging the social experience of that world is.

The remaining concept is social protocols, which considers the issue of how people go about negotiating social episodes using communications resources, and what are the rules and procedures involved. The concept is used to help decide whether there are shared understandings of how to behave socially, how far communications resources support this, and what are the effects on the social experience.

Throughout the rest of the paper we exemplify the FFIPS framework and show how it can be used to draw out how the social experience can change when people are able to talk instead of texting in multiplayer games.

FROM TEXT TO TALK: THREE STUDIES OF COMMUNICATIONS TOOLS IN MULTIPLAYER GAMING

We carried out a series of studies to explore how groups of players socialize when gaming, and in particular what types of talk they use. We were also interested to see if they change the way they talk relative to face-to-face interaction, when they talk through voiceover IP tools.

Study One: Eight Halo players in the same room

Our first study aimed to find out how talk is used when multiplayer gamers are able to talk to each other face-to-face. Using the FFIPS conceptual framework, we wanted to see how a range of issues might affect the social experience. One issue was what kind of voice-mediated interpersonal interactions occur. Another was what interactions there are with the visual material presented by the virtual world of the game.

We observed a group of eight experienced multiplayer gamers in their early-to-mid teens over three meets which lasted around an hour each. The gamers had been playing together for over six months on a fortnightly, and occasionally more frequent, basis. At each meet we set up a video camera on a tripod and left the room so as not to interrupt the flow of interaction. Our analyses are based on the resulting video data.

This group favoured Halo, a fast-moving, exciting FPS played on Xbox consoles over a LAN. The larger

group split into two sub-groups who, using two separate TVs, played against each other in the same room. Each game lasted a maximum of 30 minutes. There would be 'mixing and matching' among the eight so that the two teams were constantly changing membership from one game to the next.

A consistent finding across all three sessions was that there was a great deal of simultaneous talk, with gameplayers shouting and talking across each other in a loud and at times chaotic way. Another finding was that utterances could be reduced to a limited range of language functions. These were (1) 'joshing': jokes or irony, e.g. 'man you are so SICK'; (2) 'crowing': celebrating one's own achievements, those of another, or their misfortunes e.g. 'Ha ha you're DEAD!'; 'NICE kill!'; (3) strategy talk: e.g. 'I need a gunner'; and (4) side- or self-talk e.g. 'Oh that was SO rubbish...'. The verbal behaviour we saw was associated with a lot of laughter and physical movement (leaning forward, leaning back, shifting, 'punching' the console). We also saw other events which were non-verbal, but afforded by co-location - like the simultaneous arm-raising and cheering by the winning team shown in Figure 1(a); and the rapid reorganisation shown in Figure 1(b).
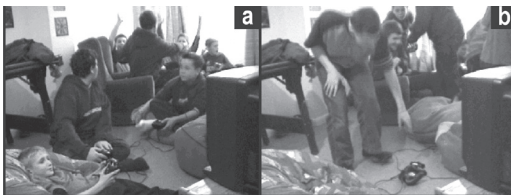

Figure 2: Halo Players: (a) whooping/handslapping; (b) reorganising

In terms of our FFIPS conceptual framework, the form of the communications resource was face-to-face talk, in the context of co-located Xbox console gaming using Halo. This was associated with different language functions than are found in CVEs. This may be because different social protocols hold. In CVEs for meetings, it is important for people to take turns, not to talk over each other, and to make clear who is being addressed. This is the opposite of what was allowed, and apparently encouraged, by the Halo gaming.

Another reason for the simultaneous talk and the different kinds of language functions may be that the utterances, although coupled to game events, were not necessary to achieve the performance of the game in the way that verbal communications in CVEs often are. Only strategy talk is important in this respect, but we saw unexpectedly little. It appears that language functions in this study did not need to relate to problem-solving as much as for a CVE because an FPS as a task is well-known and often repeated by experienced gamers like those we observed. In this context, language functions associated with joking and having fun were much more in evidence, as were associated social protocols which allowed loud simultaneous talk without specific addressees.

Communications in co-located multiplayer gaming (also known as 'LAN parties') are face-to-face, and this places constraints on how far identity can be manipulated. There were two kinds of interaction: (1) the interaction of avatars with other avatars in the virtual world of Halo; and (2) the interactions between the players in the room, which were both verbal and physical. These parallel interactions blur the disjunct between player and avatar and suggest that identity might be more continuous in co-located contexts, than in distributed contexts where the user associated with an avatar cannot be so readily perceived by others. While utterances like 'I need a gunner' show the players taking on game-associated

roles, their 'real' identities were known to each other. The roleplay appears to have been part and parcel of the experience of playing a game with friends, rather than being an example of the kind of identity manipulation which can happen in MUDs.

This type of gaming also has implications for presence. As we have seen, 'presence' can refer to social presence, and to immersion in a virtual world that seems real. In the Halo gaming, it might be expected that the amount of noise and activity in the room could have distracted the players from immersion in the virtual world, but also, that the virtual world might have meant players were less able to attend to the social presence of others. However, it appears that the opposite happened: each experience amplified the other. A LAN party appears to create a special form of presence, one that is highly engaging with high energy levels - a vivid, 'live' event.

The social experience of co-located multiplayer gaming is, on this evidence, highly energised and enjoyable, with a limited range of language functions, and social protocols which encourage simultaneous talk. This sort of gaming involves a coupling of the virtual world of the game to the real world of the room, which results in high levels of presence.

Study Two: A singleton Xbox Live player

In contrast to the Halo study, which examined talk in co-located gaming with friends, our second study aimed to look at how geographically distributed gamers talk online to people they do not know.

We observed a singleton player, Joe, 23, over two Xbox Live sessions of an hour each ('Joe' is not the participant's real name). Xbox Live gaming consists of an Xbox console through which players can select other players online, plus the Xbox Live headset which plugs into the console and allows players to talk to each other. During each session, Joe played three of his favourite games, 'Unreal Tournament' (an FPS); MotoGP (a race game); and 'Whacked' (a 'tag' game where players find and hit each other with a range of implements). We video-recorded each session, and also asked questions during the gameplay.

A finding that held across the two sessions was that talk was much quieter than in the Halo study. Joe's tone of voice was even and measured, with a 'bland' feel. Utterances were less frequent, but with a greater number of language functions. However, there was some decoupling between talk and gaming: what was said frequently bore little relation to events in the game. Another finding was that, although Joe appeared to be enjoying the experience, energy levels seemed lower than in the Halo gaming. We also found, even though Joe's identity was revealed to others only through the virtual world of the game plus his voice over Xbox Live, that he did not attempt to manipulate his identity. He also engaged in apparently formulaic ways of talking which suggest that there are well-understood social protocols for Xbox Live gaming.

In terms of FFIPS, the form of the communications resource in this study was voiceover IP in the context of Xbox Live gaming with strangers. This was associated with three of the language functions we saw in the Halo gaming – joshing, crowing and self-/side-talk – but no strategy talk, as this player was not involved in a team effort. In addition to these, other language functions occurred: 'scanning', greeting, and 'scoping'. By 'scanning' we mean that Joe searched for other users by repeatedly saying 'Hello? Hello? Anybody there?'. This utterance, which did not vary in its form, served three purposes: (1) to see who else was online; (2) to start to talk to others he could see were online; and (3) to establish whether he was able to talk to others at all - in MotoGP, for

example, the player can only talk to the racer in front and behind, to free up CPU time for graphics. In terms of greeting, when someone talked to Joe for the first time, Joe consistently used the same formulae: 'How you doing mate?' for a male player, and 'How you doing?' for a female. These did not vary. Having scanned and greeted, Joe would do some 'scoping'. By this we mean questions concerning nationality, age and so on to glean information. Example utterances included 'Where you from?'; 'Are you American... Canadian... from Montreal?'.

The formulaic utterances have implications for identity. One big difference from the Halo study is that the players did not know each other before playing together. The initial language functions we observed – scanning, greeting and scoping – may be formulaic (a) to allow formulaic responses, which may be socially easier; and (b) to protect identity until more information is known about another player. These language functions, related to the form of communications (voiceover IP, implying geographically distributed players), appear to have little to do with identity effects like hostility or intimacy. Rather, they seem to be associated with establishing a bland, non-committal form of initial self-presentation. This blandness was supported by the measured, low-volume speech which accompanied these functions. However, while identity appeared to be protected, and may be subject to the principle of reciprocity of self-disclosure, this was not associated, in this study, with the creation of false identities. Joe told the truth about who he was, where he was from, what games he liked and how long he had been playing them; and, as far as we could tell, so did his online interlocutors. This suggests that voice-mediated communications might not be associated with identity manipulation and management in the same way as text-based social experiences have been.

We have already noted that communications, while they may not be necessary in order to perform a game, can be coupled to it. However, the observations of Joe often showed a lack of coupling as if he were engaging in two simultaneous, but different, social experiences. One of these consisted of chasing an avatar in Whacked and repeatedly hitting it; the other of a conversation with the controller of the avatar, to establish where that person was from, how long they had been playing, and how old they were. This reflects a different kind of presence from that found in the Halo study. On one hand, Joe appeared to want to create social presence through his questions, since the player could not be seen. On the other, this may have reduced immersion in the virtual world. This reflects that verbal communications in multiplayer contribute to the social experience in ways that can differ, depending on whether gaming is co-located or distributed, and whether people know each other.

Study Three: Three soldiers of fortune

The purpose of this study was to look at distributed multiplayer gaming supported by voiceover IP when the players know each other, as opposed to being strangers, as in the Xbox Live study, and to see how this might differ to co-located multiplayer gaming (the Halo study). This study also gave us the opportunity to compare the social experience of the same game, supported by talk, or by text only.

We identified three experienced players – Saleh (21), Chris (22), and Zak (21) (these are not the participants' real names) – who used PCs rather than consoles. The three lived at the same address with a PC in each of their (separate) bedrooms. They formed a clan who had been playing together for 6 months 'several times a week'. Their favourite game was Soldiers of Fortune, an FPS. The group claimed that they rarely played any other. The clan had made its

own modification to this gaming experience by adding Roger Wilco so that they could talk to each other, unheard by others they were playing against. We video-recorded this group over four sessions of 60 minutes each. In two of these, the gamers used text only, using the tools provided by Soldiers of Fortune. In the remaining two, we asked the players to use talk rather than text, and in addition to video, we recorded the audio conference. We also carried out two participant analysis sessions with the group, playing back recordings and asking open-ended questions about gameplay which was too fast moving to be susceptible to questions at the time.

Our findings for this study differ from the other two (Halo co-located gaming and Xbox gaming with strangers). Where the gamers used talk, we found that, while there were similar language functions to the Halo study, there were fewer utterances. There could also be long stretches of silence. Utterances tended to be made at low volume, but although talk was quieter and more intermittent than in the Halo study, the players seemed deeply immersed in what they were doing. We also observed that the gameplayers' talk appeared to be based on a good deal of implicit knowledge, both about the way the game worked, and of each other. As we will see, these findings have implications for identity and social protocols.

Where the gamers used text, their gameplay as a clan was less cohesive. Zak, Chris and Saleh had more trouble coordinating strategy and their scores were lower. The group produced virtually no text messages, and during the participant analysis they explained that text communications for Soldiers or Fortune was something they now dislike, much preferring the social experience of being able to talk.

FFIPS predicts that the form of a communications resource will affect language functions, identity, presence (as defined in the framework), and social

| S(02): Yo dese guys is jokers man | S(04): I shot 'im in de head and he's still like alive shootin' at me | Z(09) Chris where did he shoot you | S(33) Yo guys I'm stuck in some room up 'ere yeah |
| S(35): De player's shootin' at me | Z(46) Automatic shotgun | Z(53) I see Saleh | S(56) AARGH |

Figure 3: Playing Soldiers of Fortune with Roger Wilco

protocols. All these influences are shown in the following excerpt from a talk-based session (Figure 3), which lasts around 45 seconds. The pictures show Saleh, whose utterances are prefixed 'S'. The only other speaker is Zak ('Z'), although Chris is online. The numbers represent the time, in seconds (starting from zero) where the utterance commenced.

Chris and Zak tended to lead all the gaming sessions in terms of 'kill rates' and strategy. A good deal of their success related to their experience of the game. Both were highly familiar with 'maps', i.e. the virtual architecture of the game (usually a large building like a hospital or hotel). A major aim for these two was to make sure they knew where each other was, in relation to other team members and to the opposite team, to coordinate attacks, but also retreats. They also needed to let each other have information about their 'health' (i.e., of the number of lives allowed for each game, and how many each had left), and what weapons they had at their disposal.

In the excerpt above, Chris does not communicate verbally at all – and in general, he spoke the least. Zak speaks three times asking Chris first 'where did he shoot you', asking for confirmation of Chris's location when he was last killed; 'automatic shotgun', announcing he now has this weapon; and 'I see Saleh', announcing to Chris that the remaining team member has been found. What is striking here is Saleh's apparently unsuccessful attempts to engage the other players in his own problems. Saleh is under fire, unable to say where he is exactly – 'Yo guys I'm stuck in some room up 'ere yeah' – due to less knowledge of the maps. He also asks for help when he is under fire. None of this gets a response. However, Saleh may not expect to be acknowledged. He tended to assume an argot when playing the game, an exaggeration of his normal speech, which

suggests he is attempting to join a club (his clan), but also that he is simply assuming an enjoyable, and humourous, role. Thus there appears to be an implicit understanding that Zak and Chris will communicate and remain aware of each other, that when they speak they are addressing each other; and that Saleh will be left to his own devices to coordinate his actions with the other two.

This analysis shows that there is a coupling, as in some CVEs, between task structure and voice-based communications. Here, it is mediated by implicit knowledge not only of the game but also of social relationships. The players each know what their relative level of skill is, and this is reflected in social protocols which allow utterances to be successfully addressed to other players without the addressee being made explicit. Equally, there appeared to be shared understandings that verbal responses may not be required. These social protocols also affect identity: Saleh's identity as a (comparative) learner appears to be reinforced, while Zak and Chris preserve their identities as experienced leaders. This kind of identity management is not concerned with making use of the properties of a communications tool to present in a particular way; or with creating alternative identities. Rather, the effect on identity of the Roger Wilco add-on is to enable the players to project themselves according to a shared understanding of their place in a team. This differs from the Halo gaming in that, although everyone can hear everyone else, utterances are measured and tend not to overlap, and are integrated with the virtual world of the game rather than creating a social experience in the room around the game.

Asked about playing the text version of this game, Saleh observed, 'I felt a bit weird really, playing it, as if I was missing something crucial'. Pressed on whether there was a difference between playing

Soldiers of Fortune with text-based versus voice-based communications tools, Zak said, 'I dunno, I find it restrictive. As in tactically, as in gameplay-wise, you're not as secure as with voice. I can just say Chris where are you, Saleh where are you, and I know that they're on their way almost, like I can wait there, and if you can't talk to other team members, and typing messages in, you're not going to be typing in messages anyway'. This reflects that none of these players were willing to engage in the ergonomics required to text message (done with the left hand) whilst navigating (done with the right). Chris said: 'I don't think you can really compare the two. There is such a big difference with the voice. I just have to say 'where are you guys' and in a few seconds I will get the reply. In the other one I would have to type it, and whilst I'm typing it I can't defend myself'. When asked whether needing to do this kind of thing might lead to a more intense or enjoyable gaming experience due to the added challenge, the three players appeared nonplussed: Saleh said: 'I agree with the statement that it's more difficult. I personally don't enjoy it more. It was really feeling weird. If you can't talk you don't know where they are, you don't know if you can keep in touch with them. I wouldn't play it as much if we didn't have the voice thing.' What this suggests is that the mutual awareness afforded by voice-mediated communications is crucial to the social experience for these three players, this being linked with a high priority for them: strategy. The support for this form of awareness provided by Roger Wilco means that the experience of using text-based communications cannot compare, despite lower perceived level of challenge.

This study suggests that there is an important interaction between knowledge of the game, experience of gaming with known others, and the communications tool associated with the game. This has implications for mutual awareness and attention, and the mutual interpretation of the meaning of utterances. In terms of the social experience, while talk was more intermittent, lower volume, and less frequent than in the other two studies, there was still a very high degree of presence, although of a different type to the Halo study. This suggests that voice-mediated communications, when used by a clan over a period, can lead to the members experiencing the game, as well as each other, in more engaging and intense ways.

DISCUSSION & CONCLUSIONS

In this paper we have used a conceptual framework we call FFIPS to start to scope out issues and directions which may be important when considering the transition from text to talk in the mediation of multiplayer games. The framework allowed us to analyse the social experience of different gaming contexts in terms of key concepts, and to compare how social experiences differ given different types of communications resource.

In our discussion of CVEs, we identified an important issue to do with coupling: it is necessary for talk to be coupled with a virtual world, particularly avatar actions, in ways which are essential for a satisfactory social experience to occur. However, in all three studies, players had no problem in acting in the virtual world of the game supported by talk. This reflects that where actions and events in virtual worlds are well-known and familiar, talk does not need to bear a cognitive load related to problem solving. Rather, it can be freed up to serve a range of functions relating to fun and enjoyment.

Talk appears well-suited to supporting the social experience of multiplayer gaming in ways that go beyond text. There are differences between the two media [4]: talk is immediate, and speakers know that

an audience has heard. Successful talk implies 'grounding', whereby there is shared understanding. In contrast, text requires tools, may not be picked up by the audience, and may not be 'grounded'.

The properties of talk mean that where players know each other, there are high levels of presence. Players seemed engaged and immersed in the social experience, whether it involved loud simultaneous talk or quieter, less frequent utterances. Being able to talk appears to influence presence in important ways. In co-located gaming, it helps couple a virtual game world to a real experience happening in the surrounding room. In distributed gaming, it allows superior gameplay, which leads to greater immersion in the virtual world.

Talk also has important implications for identity. A striking finding across all the studies is that identity creation is not a major issue for the types of game discussed; rather, there are various reasons why 'real' identity persists. In co-located settings in particular, it appears to be an important requirement of the social experience that people get to know each other better. This runs counter to literature on CMC and MUDs which shows that identity is altered by text mediation. In our studies, while people liked to take roles, they also appeared to enjoy experiencing people already known to them in new settings, as well as getting to know new people. Voiceover IP appears well-suited to this pro-social process, and this supports the view of the games industry that voiceover IP has social potential.

Our research has implications for designing voice mediation for games. The social experience of multiplayer gaming using talk appears to depend on players' being able to feel confident that everyone can hear everything that is being said. For this reason, players should have as much auditory access to other players as possible. This implies that the balance between CPU time for (a) graphics and (b) voice, which can limit this access, may need to be reconsidered. Where voiceover IP cannot be used due to processing power being switched to graphics, one solution has been to allow players to send each other pre-recorded voice samples. However, the social experience seen in the Soldiers of Fortune study, where there was improved gameplay and high presence as a result of talk, may not be possible with this type of short-cutting.

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12.TEXTUALITY IN VIDEO GAMES

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ABSTRACT

In this article the participants report on a two year research project titled Textuality and Videogames; Interactivity, Narrative Space and Role Play that ran from September 2001, until late 2003 at the Institute of Education, University of London. After presenting an overview of the project, including the methodologies we have adopted, and the questions we have sought to address, we outline two sample case studies, one that relates to player agency, the other that considers role-play, social semiotics and sign making in an MMORPG.

KEYWORDS

Narrative, RPG, Play, Textual analysis, Role-play, Agency

INTRODUCTION

During the *Textuality and Videogames* project we have played and textually analysed games, recorded play sessions, and interviewed game players, producers and designers in order to examine the various ways that games are structured, and the relationships between games, play, and players. We have looked at genre and transtextuality, system and 'flow', and pondered the allure of particular games. We have also investigated the manner in which some computer games incorporate narrative elements. Accordingly we have utilised narrative theory, accounts of engagement, affect, and immersion, as well as models of flow and navigation. In the course of analysing these games we have sometimes focused deliberately on textual factors, at other times our emphasis has shifted more towards the player. We have, for example, looked at co-play in relation to a particular console game, *Soul Reaver*, reviewed fan and slash culture, and analysed aspects of agency and avatars in *Abe's Oddysee* (included here as a Case Study I). We also spent time playing and analysing role play, performance and sign-making in the science fiction MMORPG, *Anarchy Online*, and a report on this work is included here as a second Case Study. Finally we have interviewed and collaborated with game designers and producers, in order to examine our findings from the perspective of the games industry.

Interactivity, narrative space and role play

The project was funded by the Arts and Humanities Research Board. It was developed by David Buckingham, Professor of Education at the Institute of Education, and director of the Centre for Children, Youth and Media. This

summary draws on the original proposal, and on the discussions, essays and reports undertaken collaboratively and individually by the project team. The project has benefited from the cross-disciplinary composition of its contributors. Andrew Burn, who co-directed the project with David, has a background in media education, semiotics and multimodality. Gareth Schott is a critical psychologist with research background in individual differences and personal and social development research. Diane Carr is the full time player and researcher on the project. Her academic training is in film theory, textual analysis, and women's studies.

As outlined in the original proposal, the Textuality in Video Games project addresses questions relating to interactivity, narrative and role-play.

• How can we characterise the 'interactivity' that is offered in these games? For instance, how far are players bound by the cosmology and rules of the game-world? What constraints are imposed on the player by the game?

• How do game narratives construct space or use time? What kinds of exploration do they invite? How do games incorporate 'story telling' with real-time play?

• What kinds of 'identification' are on offer? How free are players to change or define the characters they play? What is the nature of this 'role play', and what are its limits?

The proposal was submitted to the funding body in late 2000. To place this in context, the first issue of *Games Studies* came out in July 2001, the same month that the *Games Cultures Conference* (one of the earliest games dedicated academic conferences in the UK) was held in Bristol. The past two years

have seen a rapid increase in the amount of theory being published, but even as universities and schools respond to the appetite for games related courses, the conceptual and theoretical frameworks from which these courses will need to draw, are still being formulated. [1]

In the interest of depth, we have focused on specific games drawn from a particular genre: Role Play Games (RPGs). These games are digital descendents of the dice and tabletop role-playing games epitomised by *Dungeons and Dragons*. Typically these games include an emphasis on character generation and evolution, storytelling, exploration, team play and turn based combat systems. RPGs have remained central to our inquiry, but over the length of the project we have also considered notions of 'role play' within computer games more generally. Common to the RPGs that we analysed was a commitment to characterisation and storytelling, and this motivated us to examine a number of 'story driven' hybrid genres and Action Adventure games. Some of the popular games that we have focused on include: *Baldur's Gate* and *Planescape Torment*, *Silent Hill*, the *Final Fantasy series*, *Soul Reaver*: *the Legacy of Cain*, *The Thing*, *Abe's Oddysee*, the online multiplayer game *Anarchy Online,* and *Harry Potter: the Chamber of Secrets*. [2]

Our research involves the textuality of videogames, and we draw on academic traditions that see text as incorporating a variety of communicative modes (speech, writing, visual design, audio material). A 'text' is a form of communication that is composed for some kind of purpose, beyond the ephemeral forms of everyday communication. It is something made to last, something which employs recognisable conventions to represent the world and communicate between people beyond the immediate moment. Texts are produced in some kind of context: they have

economic and political characteristics. Computer games are produced through complex systems of commission, franchise, sub-contracting, investment, marketing and distribution. In order to better understand the processes involved in game production and creation, we met with game designers and programmers including Katie Ellwood, co-writer of *The Getaway* (SCEE Soho), Katie Lea, who designed Primal (SCEE Cambridge), Diarmid Campbell, lead game programmer of *The Thing* (Computer Artworks) and Charu Gupta, a programmer who specialises in sound and audio research (SCEE Soho). We also spoke with a game designer (who prefers to remain anonymous) involved with *Escape From Woomera*, (www.escapefromwoomera. org) an independent and politically informed game set in a refugee detention centre [3]. These interviews have helped us to appreciate the complexity of game production, the amount of co-ordinated collaboration that is involved, and some of the design issues that game creators contend with. We were relieved to discover that the questions we have been grappling with, especially those relating to the co-existence of narrative and play elements in a single text, are of import to game designers. For example, we recently convened a one-day seminar in order to disseminate our findings from this project at which programmer Diarmid Campbell spoke about the difficulty of combining plotted causality, with exploratory or non-linear game-play, in relation to the production history of *The Thing*.

Texts have users: games are played, and players exist in specific social and economic conditions. Games cost money to produce. New console games, in particular, are expensive to buy. Some consumers are aggressively targeted by computer game promotions, while others (especially women) are largely, or even strategically, ignored. Millions is spent on marketing games but, at least to a degree, it is players that drive game culture:

buying or ignoring the latest releases, writing up 'walkthroughs' to share online, and designing and distributing cheats, modifications and patches (and these activities arguably blur the divide between producer and consumer).

As members of the project team have argued [4] the study of computer games accommodates not only the analysis of a game itself, but also user-activities (actions, reactions and responses) that justify relatively objective methods. This inspired an examination of the closed ecosystems of console action-adventure games and the social and collaborative game-play that is a functional, integral aspect of the pleasure derived from game-play. Access to gaming sessions was achieved methodologically through video-recording pre-adolescents' use of console systems within the context of users' own homes. Video cameras (plus tripods) were left in participant gamers' homes with instructions on how to record their game play over a one-week period. All participant gamers were given instructions on the positioning of the camera (usually a wide-angle over-the-shoulder shot that would enable the player and their screen action to be viewed) and length of the capture required. In this way it was possible to capture user-activity at the times when the participants chose to play games. In addition users submitted an account of the length of time spent playing, the title(s) of the game(s) played, the level at which games were played and an account of the progress achieved.

As the video material was analysed it became clear that for these players a significant part of the pleasure achieved from game play involved interaction with friends in situations where game-play remained the focus of social practices. In the same way that games located in social spaces (arcades, education or online multi-player games) either foster and/or incorporate social interaction, data was collected on interactivity experienced with

personal console systems beyond the interface of the game and their individualistic practices. These findings ran contrary to Sutton-Smith's [5] chronicling of the cultural evolution of play from social, collective and public to private personal and solitary, and they problematise assumptions made about the solitary nature of game-play in early computer game literature that referred to the 'holding power' of computer games and a "new kind of intimacy with machines that is characteristic of the nascent computer culture" [6]. In the recorded instances the game itself became the focus for group-level practices and debates. Co-operatives of the nature appear so informal and pervasive within game culture that it is little surprise that they have yet to become the explicit focus of game research. Systematic ways of fully conveying the nature and function of these co-operatives have yet to be developed. Group-play extends interactivity beyond the dynamics between the execution of action and its on-screen consequences.

As well as considering the player, the relationship between players, and between players and games, our project brief required that we attempt to account for the ways in which particular games incorporate narrative factors. In RPGs like *Baldur's Gate* or *Final Fantasy*, storytelling sits alongside game elements such as rules, goals and chance, and many of the players that we interviewed stressed that their pleasure in these games was heightened by perceived narrative qualities:

> "I like RPG's because they (normally) have a good strong story, and are normally fantasy or science fiction based, which I enjoy. Sometimes a good RPG can be like an interactive story book."[7]

> "it's about being part of a story with a beginning and end that doesn't just tally all the people you

have killed, I like the story element and interacting verbally (or in computer speak) with other characters at will...I hope this makes sense but it's kinda like being part of an interactive film..."[8]

Still, the structural differences between games and narration are pronounced, and they have been described by game theorists including Juul [9] and Eskelinen [10]. A central and definitive feature of narrative discourse is a distinction between story-time, and user or discourse time. Play events, on the other hand, are generated in real time, in the time of the user. Additionally, the player's collusion in the plotting of these events means that they flit between the 'implied author' and 'implied reader' positions. For these reasons it would be difficult to argue that games 'are narrative'. But games like *Baldur's Gate*, *Final Fantasy VII* and *Abe's Oddysee* are determined to tell stories to their users, regardless of the awkward difficulties this presents to game theorists.

Employing narrative theory, particularly Chatman's *Story* and *Discourse* [11] enabled us to identify the manner in which *Baldur's Gate* both accommodates, and deviates from, conventional narrative structures. One layer or strata of the game does offer quite straight forward storytelling: plotted events with a causal relationship to one another, are related to the player, more or less regardless of their actions. However, what is interesting about the game 'as a whole', is that by inviting and then incorporating differently generated events, different forms of causality, and multiple address, it manages to offer pleasures associated with narrative, such as plotted twists and revelations, resolution and characterisation, even as it breaks with existing accounts of narrative structure.

We found Seymour Chatman's work on film narrative pertinent because of his insistence that in a visual

medium the differentiation between story-space and discourse space, and the arrangement of object (existents) in that space, are just as important as the discursive arrangement of events in time. When we considered existents we noted that classic accounts of characterisation focus on the link between trait and act. For obvious reasons this formulation is of doubtful reliability when applied to a playable, manipulated avatar. According to Todorov [12] the defining factor in a narrative's characterisation is not the relative dominance of either act or actor, because they are mutually dependant. What is significant is the number and variety of any trait's possible expressions, and the temporal distance between the description of a trait, and its manifestation in action. Todorov's assessment of psychological or aspsychological narration provided us with a more flexible, and thus more appropriate, model through which to consider the characterisation of avatars. [13]

It is worth reiterating that at no point were we interested in arguing that 'games are narrative' or that they should aspire to become a narrative form. We have examined the manner in which these games incorporate narrative elements into their game-play, but the fact that these texts are primarily games is not in question. We recognise and remain intrigued by the systemic aspects of games, something that we addressed when we looked at the fostering of momentum and flow states in RPGs [14]. These issues were explored via Friedman's [15] work on *Sim City* as well as Douglas and Hargadon's [16] account of flow, immersion and engagement. In addition to this, Richard Dyer's [17] work on representational and non-representational content in film musicals allowed us to explicate the antinomies we found in the temporal organisation of *Baldur's Gate*, while Michael de Certeau's 'Walking in the city' [18] offered us a route through which to approach and describe the differences between isometric and three dimensional

games spaces, and the transience of play as 'practice'. [19]

Motion and transformation within the game-text, and the motivated progression by the player through the gamescape were examined in terms of the pleasures promised by different game genres. The RPG *Planescape Torment*, was contrasted with the action adventure horror game *Silent Hill*, and an account of the manner in which each organises spaces and game-play in order to fulfil its generic agenda was attempted [20]. Aarseth's typologies in *Cybertext* [21] allowed for structural aspects of the games to be identified and then measured against Janet Murray's [22] models of spatial traversal: the rhizome and the labyrinthine maze. Aspects of cinematic phenomenology and psychoanalysis were employed in order to speculate about the manner in which the avatars in either game might be complicit in the evoking of affective experiences.

We also examined the relationships between players and avatars, with a focus on the *Final Fantasy* series of games (particularly the seminal *Final Fantasy VII*). We undertook a multimodal reading of the game and its central character/avatar, and conducted player interviews to investigate the relationship between this avatar's limitations and the wider game world, as perceived by users [23]. *Final Fantasy VII* offers its players a vast game world to explore, but its avatar has a rather limited range of possible motions. The apparent freedom of the game-world also masks a comparatively linear narrative. How do players feel about these potentials, and constraints? Some interviewees stated emphatically that the story was immaterial, and yet they were able to remember all the character's names and recite their complicated soap operatic histories. One player admitted he had come to feel responsible for his team's welfare: "They are like pets", he explained. Other players, of course, unhesitatingly announce that the story is the great

lure in the *Final Fantasy* games; that these games are 'like movies' that you can explore.

Multimodal theory was employed as an analytical framework to apply to the game-text. Multimodality is a semiotic theory rooted in social semiotics; that is, it treats all sign-making as socially motivated, and adopts certain overarching semiotic principles from systemic-functional linguistics, such as the notion of the basic functions of all semiotic acts: to represent the world, to enable interaction between people in the world, and to operate textual systems to ensure coherence and cohesion of the message.

Multimodality identifies how different semiotic modes are deployed in texts – how they offer different signifying possibilities, and how they combine in different ways; and it looks for principles common to them. In *Final Fantasy VII*, for instance, during the battle sequences, the game exercises an imperative – to fight – through moving image (the characters square up to their opponents), through language (the battle screen gives commands and information through words and diagrams), and through music (the urgent pace and insistent rhythm represent a call to arms). Social semiotic and multimodal theory [24] helped us to analyse how game-texts offer semiotic resources to players, how these work as systems of meaning potential, and how these potentials can be taken up and used by players to fulfill their own social interests and motivations. Finally, multimodal theory sees all acts of semiosis as transformative. It has helped us, therefore, to understand how players interpret game-texts, and transform them into other texts of their own, whether these be spoken commentaries, or web-based fan productions through writing or visual design.

At this point, we would like to move from describing the project in a general sense, to a closer examination of two particular games. The first case study is Gareth Schott's analysis of *Abe's Oddysee*. The central character, Abe, is a cheerful employee in an abattoir, up until the day that he has a '*Soylent Green*' style epiphany [25]. If the character in a game is comparatively developed, how are the player, and the player's agency accommodated? Then, in a second sample study, Diane Carr and Andrew Burn review their ongoing work on the massively multiplayer role-playing game, *Anarchy Online*.

Case Study I: Abe's Oddysee, by Gareth Schott

The project has focused on the relationship between players and avatars in highly structured story-driven console game. Abe is the central character of the *Oddworld* series. Oddworld games represent one of the first in a line of games, like *Black & White*, *ICO* and *Halo*, that have begun to shift public perception of computer games as 'cultural flotsam', 'candy entertainment' or 'digitised blood sport' to legitimate art [26]. In increasing the cultural relevance of gaming and breaking the pattern of the 'me-too' market (27), Abe is strongly developed central character "driven in a way that is fired by larger issues" [28] To create a gaming odyssey, required developers to make Abe more than a 'flat character' but a character that evolves and develops within the course of the game. But if the central role is filled by a character, how and where do players 'insert' themselves into the game world?

Interactivity has been applied to game-play as it describes how users are not just hosts of internal mechanisms orchestrated by environmental events, but agents rather than 'undergoers' [29] of experiences. However, the use of the term 'interactivity' has been questioned by critics who interrogate the extent to which games actually succeed in balancing the power and unidirectional

nature of traditional mass media in favour of a 'consensus-finding processes'. In comparison to on-line games, console games offer different forms of mediated communication and opportunities for active engagement [30]. Indeed, if one applies Rafaeli's [31] definition of interactivity to the actions of console game-play, in which the *chain* of inter-related communication the quality of the contact between player and game is the focus, consoles can be seen to offer reactive communication. That is, bilateral interaction rather than the joint manifestation of simultaneous and continuous exchanges.

Using these models of interactivity one has to question the extent to which any console game is capable of producing game-play in which the consequences of a player's actions recount the relatedness of earlier conduct. In one way or another the process of game-play with a console game determines that the player follows directions, in which the role of the text is to provide an opportunity for the production of an event or happening. Although the structure of the text allows for different ways of fulfilling its potential, progress and movement is very much guided, pre-structured, and moulded by the game. Yet, the human mind is not just 'reactive' but generative, creative, proactive and reflective[32]. Janet Murray [33] has highlighted the role of agency as a desired effect from engagement within interactive narrative. Interactive game-play may therefore be conceived as the product of both agentic and environmental causality, operating at different phases of the sequence. Clearly game-play is 'conditionally orchestrated', but interactivity should summarise the complex integration of personal and exchange-based foci of causation within a unified causal structure. Where an agentic approach offers an extension to existing interactive communication models is in stressing the

'bi-directionality' [34] of the influences of reactive structures and personal reflectiveness.

Through examination of what fans of the *Oddworld* games chose to discuss on on-line forums it became apparent that different forms of agency operate in and around players' engagement with the games. Through distinguishing between personal agency, proxy agency and collective agency a divergent range of practices and pleasures were identified within and external to the game-play experiences, but always connected to the game. Examples of personal agency were found in users' non-instrumental practices that fail to contribute to users progression within the game, but focus on embodying, 'being' and acting out the repertoires of behaviours attached to primal, alien characters. Personal agency was found in examples of how users pause and take full advantage of the interactive environment that has been created, rather than seeing it as a means to an end. Whilst proxy agency, refers to instances in which users actively defer responsibility and utilise cultural tools to obtain problem-solving solutions, enlightenment on aspects of the narrative background, or deeper understanding of the fan-created knowledge base of character orientation and history. Lastly, collective agency refers to the fans' extension of Oddworld through art, literature and games.

Case Study II: *Anarchy Online*, Andrew Burn and Diane Carr [35]

In an online multi-player game like *Anarchy Online* each player constructs and then propels their own avatar through a shared world. There might be thousands of individual avatars cruising its cities and deserts at any given time: chatting, shopping, fighting, flirting, waiting, forming teams or taking off on solo missions. Some players collaboratively role-play inventive scenarios. Others prefer to focus on

player-to-player combat, or 'power levelling'. The game, in other words, accommodates various styles of play. The theory we have adopted in order to make sense of this varied, multiple world, is Social Semiotics.

If, as proposed by social semiotic theory, the sign making and sign reading activities present in Anarchy Online are discursive and contextual, motivated rather than arbitrary, the first question is: what are these motivations? While we believe that the answer to this question might well vary from player to player, we propose the following broad (and provisionally titled) areas within which to explore the presence of motivated sign making and sign reading in this game.

Ludic motivation: an interest in the skills, rules, competition and dynamic engagement invited by the game.

Representational motivations: this category involves presentational, dramatic, narrative and performative aspects within the game.

Communal motivations: These involve the game's generic identity, fan cultures, wider digital culture and the taste communities in which it is inter-textually embedded. The notion of the 'communal' is intended to refer to both the social, shared nature of the game, and the sense that the game itself is located within a generic community that encompasses similarly themed fiction and other computer games.

Ludic motivations involve strategy, goals, real time events, chance, rules, skills acquisition, exploration and levelling up. Ludic motivations involve questions of 'how to play', (how to learn to play, how to succeed, play well and progress) as well as the exploration of the game's strategic possibilities (to

choose to play as a martial artist, or a sniper for instance).

Our category of 'representational motivations' includes aspects or potentials of the game that are of importance to players, but that are not crucial to scoring or progress in the game-world. Representational motivations involve the dramatic, expressive, narrative and performative potentials of the game. Experienced Role Players compose characters with full biographies (likes, dislikes, lost loves, busted hearts, broken families) to play 'in character' in collaborative fictions and scenarios. For these role-players the parameters or constituents of an avatar are only partially determined by the game. These players are involved in the use and characters whose invention encompasses, and then exceeds, both the construction templates offered by the game, and the ludic specifics of the 'avatar as game component'.

By contrast, our own early attempts at character generation were more like a playful 'dressing up'. After building characters 'Nirvano' and 'Aisea' we dodged toxic rodents and stumbled about the newbie training ground, and decided that our character/avatars are partial representations of us, at least in that as constructs they embody a set of choices and preferences. As well as bearing certain generic markers (they are martial artists in a science fiction setting) we also found that our avatars carried aspects of our real world identities with them, as the manner in which we experienced the game as a social space was resonant of the strategies we employ when managing (and mismanaging) social situations in real life. This, we expect, is a marker of our inexperience in online worlds.

Our last category, 'communal' motivation, refers to the social, shared nature of the game and to the fact that the game itself is located within a generic

community that encompasses similarly themed fiction and other computer games. As a science fiction the game employs certain generic tropes, and players come to the game armed with particular expectations shaped by their gaming experience, or their lack of experience. Once in the game world, all players will find that other players affect their experiences within the game, even if they decide to stick with 'solo missions' rather than team play.

Social interaction in *Anarchy Online* is mediated through two primary channels: The visual, animated aspect of the avatar (how they act, how they look), and the less predictable text mode of live chat. The visual aspect of the avatar employs various potentials: costume, body, face and movement. There can be no lapse from this because the player's presence depends on and manifests as the avatar. The look and the motion of the avatar are relatively prescribed. The in-game chat mode involves the typed entries of players, and this mode is comparatively flexible: chat is at times the 'voice' of the avatar, but at other times it's clearly the player who is talking. The chat mode is at the player's disposal, it is possible to construct every shade of commitment to the avatar's identity: to slip in and out of role, to maintain the role at a low level, to modify the role, to speak in your own voice (as a player) from behind the mask, or to speak in the voice of the mask.

Just as a deceptively simple set of templates combine to create a huge range of possible avatars, the motivations (representational, ludic, communal) that we have examined all mesh during play, proliferating, compounding and informing one another. So, in practice these motivations become ambiguous and multiple. The game's visually individuated avatars and elaborate science fiction locale play against the abbreviated pragmatics of chat, levelling and team formation, and the available semiotic modes allow for these ambiguities.

IN CONCLUSION

This is an overview of the issues that we have been investigating over the past two years, and the methods that we have employed. In the process we have presented papers at several game studies conferences, and we have written and co-written papers that are appearing in different journals. As final outcome, we have a book underway titled *Computer Games*; *Text*, *Narrative and Play* [36]. We have enjoyed working on the *Textuality in Video Games* project - and we still play computer games for fun. There are, of course, questions of import that have arisen during the project, that go beyond our original brief, especially as regards issues of gender, race and representation, the pedagogic potentials of games, and the teaching of games studies both at high school and at undergraduate levels. These are issues that we look forward to investigating further in the future. The cross disciplinary make-up of the project's team has been an enormous bonus. While we have each had room to explore issues from the perspective of our particular background, conferring with each other and collaborating on papers has been useful, educational, and productive. Computer games studies is still a relatively young field, and the object of study is various enough, and complex enough, to happily support input, theory and perspectives from a range of disciplines.

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13. ENCHANTING REALITY –
A VISION OF BIG EXPERIENCES
ON SMALL PLATFORMS

Martin Ericsson

ABSTRACT

Games for mobile platforms (phones and PDA) tend to be simple remakes or clones of gaming hits like Snake and Defender or in the case of high end-devices, Starcraft and Myst. Only a very small number of games use the unique properties of mobile computing. These location-based or mixed reality games represent a game form in its infancy, struggling to find functional gameplay models. Is it possible to create powerful immersive game experiences using the mobile platforms unique properties? How can technical limitations like limited display size, resolution and sound quality be made to work with the game instead of against it? What challenges face designers of games played on handheld devices in a real physical setting?

Using the functional Visby Under prototype as a starting point this paper presents a novel approach to location-based mobile games. The mobile gamers presence in physical space, his ability to move though and interact with it, is seen as the central quality of the game-form. Using experiences from live-action-roleplaying design the paper explores the possibilities of using the real world as the primary user interface for deep mobile games. The device is used as the engine for story-progression and gameplay without breaking the illusion of the fiction, transforming everyday reality into an engaging multi-player game space.

KEYWORDS

Location based, Visby Under, live action roleplaying, diegetic consistency, visions

INTRODUCTION

The race to create and dominate a global mobile games market has begun in earnest. With the Nokia N-gage, SymbianOS phones and Sony's upcoming Play Station Portable (PSP) the trend is clear. Mobile games are just a niche to be conquered and turned into a highly profitable business by the giants of digital industry. Nintendo's absolute dominance over the market is about to be challenged by a new type of mobile games machine blending the capabilities of media player, communications device, PDA and hi-spec Gameboy variant.

[1] http://www.pspinsider.com/ holds complete specs

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The presented hardware specifications[1] for the PSP indicate it will outperform the PSOne by a long shot, being closer to the PS2 in terms of graphical prowess. Add to this a wireless network, mpg4-player, USB-port and extensions to link up the device with GPS and mobile phones and you have an intriguing machine for mobile gaming. The Nokia N-gage is closer to a phone boasting the prowess of a PDA processor and the design of a Gameboy. Its built in GPRS, bluetooth, mediaplayer and sound recording functions make the divice uniquely suited for new styles of mobile games.

From its birth the mobile games market has been dominated by the practice of porting ancient console titles to handheld platforms. 80's classics like Snake, Defender and Pac-Man resurface and find new audiences all over the compulsively cellphone-wielding industrial world. Nintendo have successfully managed to sell a substantial share of their 8 and 16 bit games twice, once on the original console and once as remakes for the Gameboy models. And for every original re-released there are a hundred clones, a thousand variants and even a few whole gameplay genres of vastly varying quality based upon it. Many of these ancient games are beautiful, almost universally regarded as classics of digital art, but we who were active gamers in the 80's have seen them all before and some of us are not convinced that a new packaging changes the essence.

An often repeated reason for interest in handheld games, both from industry and consumers is the practice of filling otherwise meaningless moments of time with gaming enjoyment. A lonely lunch-break, a cross-country car journey and the grind of daily commuting become opportunities for gaming pleasure. Olli Sotama refers to this "first phase of mobile gaming" as the "*entertainment of idle moments*"[1] and quotes Lasse Seppinen as saying: "This is the core of mobile gamer behaviour: mobile gaming remedies moments of boredom when there's no access to better gaming devices." [2] This is all fine, but we believe the technical configuration and the very mobility of handheld devices makes many other radically different games formats possible, most notably games based on the players physical location and physical presence in her environment. Sadly all indications imply that this first idle phase of mobile gaming may last for quite some time.

The lack of conceptual innovation within the games industry has been pointed out by many critics, designers and researchers over the past few years. Veteran game designer Greg Costikyan sums the situation up nicely in his webblog on games culture and development [3]:

> "And so the walls come closing in. You have to be fuckin' Will Wright to get an innovative title through; no one else can do it. (Okay, Miyamoto can do it. Maybe Sid Meier. But you get the drift.) Fewer and fewer titles are commissioned from independent developers; the publishers gobble up studios, until they themselves fail, because they don't have the publishing spread (or, in many cases, the brains god gave a biscuit) to compete with the largest houses.
> The industry is fucked. It's less imaginative, more risk averse, than the fucking music business. It makes Hollywood look happy to take a flyer on talent."

Looking at the release schedule for any handheld platform confirms the suspicion that the publishers are opting for the "safe" route when it comes to mobile games as well. Expect Tomb Raiders and Tony Hawks rather than new made-for the media games.

ENCHANTING REALITY –
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What we are about to see is basically a rerun of the last few years' stationary development with little or no utilization of unique device traits such as location-tracking, mobility, and communications functionality. We find this development disturbing. Simultaneously we see it as an opportunity to make a difference as visionary researchers and independent games designers.

We believe it is high time to explore the rich potential for unique games for this new breed of platform. From the screen to the street, from audiovisual to multi-sensory - the possibilities are limitless. We realize this exploration will not initially be driven by the commercial games industry, but must be pushed by independently funded artists and researchers working in close contact with passionate gamers. Weather there is a mass market for dedicated mobile games or not is more or less irrelevant; innovation and mastery of a new game-form is the goal itself. During the past year the Zero-Game studio has led development of a story-driven location based game called Visby Under. This production, the preliminary report from this summers' testing and my background in Live Action Roleplaying (LARP)[2] forms the basis for our, still raw and half-formed, thinking about digitally facilitated gaming in real world environment.

CURRENT STATE
During the VU project the current mobile games market has been glanced at more than once. Of special interest to us are naturally those projects falling under the label "Location Based" or "Pervasive". Only a handful games using real-world location as a parameter in gameplay exist to our knowledge.

Perhaps the most famous example is Botfighters, developed by the small Swedish mobile-games studio "It's Alive!"[3]. This simple pervasive location-based shooter has achieved slight commercial success with around 6500 subscribers in Sweden, slightly more in Russia and handfuls in other parts of the world. The game tracks GSM-cell location and allows players within range of each other to score kills and gather resources to by upgrades. Botfighters is a prime example of a pure Location Based game. Of special interest to us is that the simple competitive set-up is enough to get at least some players deeply involved in the action lead them into intense physical situations like the one described by top player Bjorn Idren in an interview for Business Week Online;

> "After getting caught with his radar guard down, Idren quickly revived his handset and used the radar to determine that his opponent was 9,000 feet away and driving off fast. He was out of range for a wireless bullet, so, hoping to exact revenge, Idren and his girlfriend gave chase. They shadowed Idren's opponent for a full hour at high speeds on the highway but couldn't get close enough to pull the trigger."

[2] The Scandinavian LARP scene is a highly developed subcultural network organizing physical role-playing games ranging from deep explorations of immigration policies and political readings of Shakespeare to wild fantasy adventures and humorous sci-fi extravaganza. http://weltschmerz.laiv.org/europa/sourcebook/eurochap_1.RTF describes one style of serious LARP:ing in english. The Norwegian LARP portal http://www.laiv.org is a good place to start looking into the nordic LARP-scene (if you know norwegian).

[3] Official homepage http://www.itsalive.com/page.asp

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Botfighters is studied in depth in Olli Sotama's afore-mentioned paper for last years CGDC. Olli, in his study, concludes that "other real world features than location can become significant in the future", echoing our interest in the physical and social world as playing field. Sadly but predictably almost no games concepts of the kind Mr Sotama imagines have been published. It's Alive seem to be one of the very few champions of Location Based and Pervasive games out there. Their most recent game – Supafly, where the goal is to become a virtual superstar, concentrates on social relations and community but does not introduce any new modes of real world interaction. Portugese company Ydreams have recently launched a Botfighter-like anti-terrorist game introducing the concept of physical sanctuary in certain locations, malls and restaurants are given as examples.

At the absolute forefront of experimental location based gaming we find the UK mixed-reality performance group Blast Theory[4]. Their projects Can You See Me Now and the recent Uncle Roy All Around You both use handheld computers, GPS location tracking, and invisible online players to construct games where fast physical movement and device-mediated teamwork are central to gameplay. The games are almost entirely free from fictional context, opting instead to get their point across through pure gameplay and the physicality of the experience.

French Telecom laboratories have experimented with two different location based games in the Marseilles region. GeoQuest is a mystery-story set the 19th, Orbital a Elite-type space trading game.[5] Both of these use the physical city as a gameboard, triggering text-based events when a player enters a certain mobile cell and contacts the game-server. In this basic mechanic these games have a strong similarity to the Visby Under game and GeoQuest sets itself apart from the others by virtue of having a story as driver for gameplay.

TRAITS

So, that's the rough state of the art. Location Based games today are relatively small (in terms of programming as well as economic turnover and media interest), mostly competitive games with very slim narrative content, with Supafly's potential for emergent stories a possible exception. Clearly these games, varied as they are, do not represent the full spectrum of possible mobile experiences. What are the defining traits of gaming on a handheld communications platform? Stationary games are slowly finding a form of it's own, some aspiring to artistic quality and attempts to use it's unique opportunities to create powerful games experiences. Warren Spectors words illustrate this striving for excellence within the medium:

> "For me, making the most of it means doing everything in our power, as developers, to ensure that our games exploit to the absolute maximum the medium's unique characteristics (which I see

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4 http://www.blasttheory.co.uk
5 http://www.wgamer.com/articles/ fran-cetelecom092801

as the power to transport players to fantastic worlds and immerse them as completely as possible in those worlds; the requirement that the experience be driven by player participation and that the game respond actively and appropriately to player choices; the crafting of experiences and stories that are the result of emergence and not simply careful planning on the part of a writer or designer. In other words, I want to see a game industry that strives to share authorship of the gameplay experience with our collaborators — our players ...... If we focus on these unique characteristics of our medium, we will find ourselves riding a tidal wave of originality in a medium that continues to grow both aesthically and formally — a medium that does, on occasion, produce something totally and blissfully original..."[4]

What we are attempting to sum up here is not every single possible thing you can do with the device, rather what qualities this form of gaming possess that define its potential in relation to stationary digital games. By pinpointing these areas we hope to identify where current mobile games are lacking and also construct a reference system to evaluate and push our own projects within the area. I am certain some or all of these traits have been previously identified by other researchers and do not claim the categories as our own. The traits themselves are not primarily derived from the technical details of handheld devices but from their , but how they are to be used in a game is for the individual artist to decide. I'll give you my perspective and my five cents worth of how to create engaging digital games set in physical reality. I base most of my opinions on my ten years as writer, organizer, director and designer of LARP-games. Both types of game have the opportunity to use physical reality as stage and carrier of narrative meaning and I believe there are valuable

lessons to be learned by uniting the forms. It is worth noting that these traits were defined at the end of the VU design-process and did not directly inform design of the game. We will find VU lacking in many of these categories and take these omissions as the starting point for future work in the field.

Mobility and Motion
The player of a mobile game can move relatively unencumbered through space and perform almost any physical task that does not require constant visual monitoring of the screen. She may walk, run, skate, crawl, sneak, jump, dance, or make love in the back of a car as active parts of the game. With rugged devices she can swim, fight and perform various physical stunts. The players' locomotive speed and her ability to overcome physical obstacles may be used as active gameplay elements.

Location
The players' physical location can be tracked with varying accuracy depending on the technology and may be used as a part of game mechanics. Relative location can be used as well as absolute, as can false location information. Location tracking enables non-physical entities, spaces or objects to occupy the same space as the players. This is commonly known as Augmented Reality and may be used as a part of the game. Players may detect enemies or friends in their vicinity, receive constant directions to hidden locations, flee from invisible phantoms whispering in their headphones and listen to the voice of long abandoned industrial sites telling tales of the past.

Presence
The player is physically present in her surroundings and is able to interact with all kinds of objects, humans, animals and technological artefacts as a part of the game. All forms of sensory input, including pain

and pleasure can be used to convey in-game information to the player. Any action and sensation can be a core part of gameplay. A player may force locks, avoid security-guards, negotiate with adversaries, eat lobster and get horribly drunk on tequila as active parts of the game experience. Changes in the state of the physical world can be tracked using various camera and sensor-systems or work on the basis of honour-systems.

Communication

The devices that mobile games are played on are currently primarily communications devices. This means players of a mobile game may communicate with ease and distribute media-files to each other and third parties outside the game. Peripherals such as cameras and sound recording equipment add even more possibilities for communication. In the case of a multi user game this means players can stay in more or less constant contact, organize teams when the going gets tough, call meetings in discreet locations, send pictures of a suspect to be checked against FBI-archives and talk to their characters wife in Los Angeles (played by a gamemaster or support team member). In a single player game a player may access online information on a historical event relevant to the game, record, e-mail and later decode the strange voice emanating from the cellar, download a manual to operate a forklift and call friends for advice on how to get across town quickly.

PERVASIVE GAMING

It is worth stressing that these traits refer not to what is possible to do "on the side" while playing a game, but tries to identify stimuli and actions that can be used as active parts of the gameplay or as integral parts of the game experience. Pervasive games affect your ordinary life and are played in short bursts when convenient. This is not our focus.

Our goal is depth of emotion and immersion - gaming as peak experience, not constant access to digital diversion. To exemplify; a player acting the part of a down and out private investigator is sent an SMS telling him the address of a suspects hideout. This is a part of the game's structure but is masked as a tip from an informer. He goes to the address, manages to break down the door and finds a rundown room with a single ancient computer. The room is a part of the games setup, rigged for this and similar scenes. In a drawer he finds a bottle of cheap vodka. Our hero sits down, fires up the ABC-80 and proceeds to get drunk while his tech-savvy brother in law (another player in the game) tries to guide his futile hacking attempts over the phone. Compare this to the botfighter-player who fires a shot at an enemy on his way home from the pub, then breaks into a house, steals some booze and plays with an old computer. With careful planning, solid roleplaying and sound games design any real-world activity can be incuded in the games story-world. This brings us to what we believe to be a core element of a roleplaying game set in the physical world; consistency between the story-world (diegesis) and the sensory input of the player.

DIEGETIC CONSISTENCY

The fundamental game rule of Live Action Roleplaying (at least in the Scandinavian countries) is to consider the game, while it lasts, as if it were real. Players and organizers spend massive resources ensuring that the illusion of the game setting is kept intact and players are expected to disregard all sensory imput that falls outside the stated story world of the game. The goal is to make sure that the diegesis and the physical world are as consistent as possible and make deep immersion into the game easier. In a strict medieval game costumes, props and even buildings are designed or modified to make sure they fit the period and the setting. Budget, cre-

ativity, knowledge and reliance on the players' internal suspension of disbelief dictates how authentic the end result is and needs to be. If an aeroplane flies over the heads of a group of players playing the parts of iterant monks on their way to a monastery they may choose to ignore it simply by not looking up, thus disregarding the diegetic disturbance. Acknowledging the presence of the aircraft breaks or changes the diegesis radically (this is a medieval world, but a strange flying object just appeared above us, what's up with that?). Breaking the diegesis of a roleplaying game of this kind effectively ends play until it can be re-established. I'm talking in general terms here, I've played around with extra-diegetic narration quite a lot in my games but the baseline is that a roleplaying game needs a strong diegesis to be sustained, especially over longer periods of time. The skill to enter into a state of suspension of disbelief seems to be an ability we all possess, but are also able to develop over time. I have the pleasure to know many people highly skilled at entering into story-worlds at the drop of a hat, but most of us require help to leave our everyday mindset. Games designed for this purpose are one of the most effective ways of achieving this shift in perception. Most LARP players I have discussed the subject with agree that consistency between perceived sensory reality (location, props etc.) and diegesis (the game world and backstory) is a powerful tool to make the game engaging and it is often considered aesthetically pleasing in it's own right.

In traditional computer and console games the world and its flavour is established by everything from interface design, engine architecture and gameflow to sound effects and voiceacting. The breach of diegetic consistency is accepted as a part of the computer games genre; lag, reloading, hardware crashes, visible interfaces on screen, the very presence of the screen itself, tells us that this is not for real. Yet we manage to immerse in them, enraptured by the repetitive patterns of problem-solving and skill-based confrontations. This is the magic of successful gameplay design at work. One may argue that computer games are not played with the same goals as LARP's or storytelling-oriented tabletop rpg's and therefore no comparison can be made between them. The narrative language of computer games tend to be more influenced by cinema and television than by a desire to create a seamless illusion of alternate existence. On the other hand games like Deus Ex, Morrowind and Elite present spaces for the player to fill with meaning and subjective narrative without forcing her to follow a set pattern of narrative development and manage to establish a strong sense of internal diegetic consistency by elegant player-involving means. Remember the words of Mr Spector, designer of Deus Ex;

> "...to transport players to fantastic worlds and immerse them as completely as possible in those worlds..."

How is diegetic consistency handled in current location based games? The answer is quite clear from looking at the cases presented above. Very few of the games have any kind of backstory and the ones that do conflict radically with players real world

experiences while playing. In botfighters you control a Manga-style robot with your mobile phone, ordering it to fire and raise shields by SMS messages. When you move the robot moves with you. I can buy that kids suddenly gain access to remote-controlled killing machines. Similar things happen with alarming frequency in Japanese popular fictions. But where are these robots? Why can't I hear the gunfire and see massive shadows outside my window? It is quite impossible to unite the game and reality in cases like this and thus the opportunity to use the physical world as a means to deepen immersion is weakened or lost. It can still be used as a gameplay mechanism and that is how all currently available location based products treat it.

LARP and location based games share one very important trait: they are both played in physical reality. A LARP game is most likely set in a closed environment designed to fit the diegesis. A game using the unique traits identified above is most likely to be played on the streets of a modern city. Consistency must then be achieved through the crafting of the diegesis. Stories essentially have to be set in the modern world, or a place that looks, feels and sounds just like our own. It does not exclude the introduction and simulation of genre-elements like magic, hypertechnology and the occult, but it does force these elements to be hidden from or integrated with normal day-to day existence. This may seem like a severe limiting factor to the kind of stories that can be told with the medium but that may be exactly what the form needs. Computer games have been obsessed with blatant Sci-Fi and

Fantasy narratives since it's birth and a little subtlety may be just what gaming needs. The real world setting is perfect for more politically relevant games and by it's very essence encourages some heavy-duty reflection on the nature of reality and games.

VISBY UNDER - BACKGROUND

In the middle of the Baltic ocean lies an island of myth and a city of legend. Long ago, before the now ruined and ivy-clad cathedrals and grand walls of Visby were built, no men lived here. The island rose and sank with the rhythm of the sun and moon and was inhabited by magical creatures, the Trull. Memories of the Trull still linger in our folktales but we can no longer reach them. Their world and ours have separated, the ties severed by steel and blind faith. But magic is coming back to us. Radical research into radio-séances catching distant voices in the ether has given birth to the mathemagical Doyle-device. A modified Ipac equipped with an experimental GPRS-system can breach the walls between the worlds and reconnect us to the legends of old. But time is short, the world is starving without magic, and a chosen few have been called to heal the breach. Wielding technology and magic alike, they must team up with a crew of fickle Trull, untangle the legends of Visby and take a stand in the struggle for reality.

Thus, briefly, goes the backstory for Visby Under. The game uses the abovementioned technology to track players positions in the beautiful medieval city of Visby, and triggers events when one of twelve key locations is found. There the player, seeing the world through the eyes of her companion Trull (or rather

mouth, since the Trull tells the player what it sees on the other side), must solve riddles and gather the strength to make a difference. The game can be played as a single player experience or as a team-based game with two opposing Trull factions struggling to turn fate their way.

Visby Under attempts to unite the mythical story, the physical setting of Visby and the capabilities of handheld devices to produce an immersive location based gaming experience for the mobile platform. What we have aimed for is to create a game appealing to a wide audience and that can be played with many levels of intensity and immersion. It can be played as a pure game, but nothing in the diegesis stops you from believing that it is true. A troupe of players could easily treat their PDA-mediated contact with the Trull as real and engage in deep roleplaying , contemplating the meaning of their actions and the implications for themselves and the world at large. We took a first step towards enchanting reality, but the tests indicated that the players wanted more. Far more.

VISBY UNDER - IMPLEMENTATION

The Zero-Game studio drafted the game design and backstory for the Visby Game with three goals in mind.

1. To create a game that enchants a physical location and gives it new meaning in the eyes of the player using mobile technology.
2. To make the legends of Visby and Gotland accessible to tourists and visitors in a playful and engaging manner.
3. To bring mobile gaming and LARP-methods together.

The game was then written, designed and developed by a team led by producer Christopher Sandberg and

using the expertise of the Namni Group. With slim budget and timeframe they developed not only the game engine, the story and the audiovisual components, but had to construct a working network and server solution tying all the untested and occasionally volatile parts of the iPAQ and its peripherals together. At the core of the Visby Under game lies the Doyle engine, a story-building system with support for proximity triggers, virtual object-handling, interface by magic runes drawn on the screen, combat between ethereal beings, a bartering system and much more.

VISBY UNDER - TESTING AND
LESSIONS LEARNED

VU has so far been tested in small focus groups with greatly varying games experience. The report [4] must be considered preliminary, but there are several noteworthy comments and attitudes from the players that indicate strong directions for future development. In the executive summary of the report Sandberg concludes:

"It is clear from testing that changes to the participant's consumer context radically diversifies the experience. Because the user no longer sits in his or her comfortable computer room, but in fact wanders in any conceivable milieu, the consumer context has become increasingly disparate. With little research done into user situation this becomes an unknown variable when predicting and controlling the experience of a mobile game. To ensure positive outcomes both game mechanics and player attitudes must be handled in the location based game production. For this reason ported computer games to, for example, cellular phones will remain leisure games, or games played when the environment provides a computer room-like situation (home, school, café, bus). Games that

utilises the surroundings and control the player situation/attitude have the potential to become choice activity (with high level of participation and loyalty)."

The mention of player attitude is significant. A LARP-like attitude to a mobile game like Visby Under radically changes the experience, makes the experience more precious than when played as a game of skill and chance. If played with a computer gamer's attitude, the walks between locations become boring. To an immersed roleplayer they take on deeper meaning, with every mundane object interpreted through the diegesis of the game. But how can we change an attitude? Clearly the thin connection between location and game present in the first iteration of Visby Under will not be enough to encourage players to leave their mundane sets of reference. Heavier artillery is needed.

"While walking in the medieval city of Visby is a suggestive experience, it does not automatically present a framework for a digital game or vice versa. In order for walking through local environments to add to the computer game the milieu has to be vital to the game diegesis. In one word (sic) : what you do in reality has to effect virtuality. It is not enough to merely trigger events on sites. Such detailed reality-virtual interaction as moving objects, talking to actors, triggering outdoor FX of sound and light really have to come in to a full-fledged production. In the first proof-of-concept version of Visby Under no such advanced alternate reality gaming functions were implemented."

FUTURE TRAJECTORY

Consider that an iPAQ has a 240x320 (3.8" diagonal) 65Kc Reflective TFT screen. In a game it can be used to show the sun in two different ways. The first is to find an appropriate place in the story of the game to play a beautiful MPG-4 of a brilliant blue sky and the shining life giving star, or a rendered version of the same sight. The second is to relay a series of orders to the player in the shape of simple words on a black screen. Maybe his wife is held hostage or maybe he follows the advice of a dead friend through the computer.

GO TO SKEPPSBRON 24. ENTER THE BUILDING.

The player walks across the block, into a half empty office-building. She reports her location.

GO UP TO THE ROOF. THERE IS A WAY.

The player tries the elevator, but can't get all the way up. She exits and finds a fire escalator leading up. A security guard looks askance but does not stop her. She exits to the roof. The wind blows strong, the city sprawls as far as the eye can see. The player reports her location.

LOOK UP.

What is the resolution of reality? What is the power of the processor that drives the world and our physical bodies? This is the true spec of these devices when combined with ingenious game design and roleplaying expertise. Every taste, every sight, every smell, every sound and every touch. Every place, every object and every living being on the planet. The whole planet is indeed a stage. She is just waiting for the play to begin.

By filtering our impressions of the world through well conceived gameplay patterns we can see the world in new light and go places we never would have dared to enter in our ordinary lives. A player acting out the part of a time-traveller from a

apocalyptic future, driven through the city's abandoned areas by pieced-together recordings from the distant past will feel the trunk of an old oak-tree in a different way than you and I and can find his lost faith in the words carved in the bark. A player forced to leave everything behind and walk the night-time streets in search for shelter will learn a thing or two about the way our world treats its weak.

The unique, extreme traits of mobile devices call for extreme gaming. This is the skydiving, wreck diving, rock climbing, street boarding of the imagination. The player of an extreme enchanted reality game needs to traverse the urban landscape efficiently, confront constant unexpected resistance, face real physical challenges, engage in character-driven social engineering, challenge her perceptions of the world and learn to follow rules very different from those society teaches her. Not quite the activities we associate with computer gaming today.

SEE YOU IN THE STREETS.

CASE

Wind and rain tear through the city streets, gradually driving the crowd indoors or under ground. In a plastic waiting booth of a subway station Teenage Male stares intently at the full colour screen of a specialized wireless gaming device. His train is delayed for a quarter of an hour. Electrical failure. Sweat and moisture hangs heavy in the air, Teenager grunts and takes a deep breath as the game loads the next level. He glances at Pretty Techno Chick sitting in the far corner of the plastic booth. She stares into space, looking faintly sad and lost in thought. A sunken incaesque temple, beautifully rendered in PSOne quality 3d, manifests on screen and the first enemies appear. Jump, dodge, shoot, dodge back, push, pull, pick up. The focused activity of the game takes away the some of the insufferable boredom, making the

wait at least bearable. Another meaningless moment has been redeemed through the miracle of hi-end mobile gaming. Seppänen would be proud. A soft polytone beep sounds from the corner. Techno Girl across the booth flips her rubber handbag open and tears through the contents in a frenzy, pulling out an identical device with attached headset. Teenage Male misses a vital jump and it's game over. "Anabelle here, you got the pickup point locked down?" She talks as she rises. The device screen is flickering, showing a green on black architectural schematic of the subway station, a blip pulsing rhythmically near the booth location. "I got it, she mutters. Great going Largo. Give me the locker number when you got it." The device beeps again. "Great, just what I need." A raw crackling noise this time, like a short circuit. Anabelle freezes for a second, checks her screen and turns towards teenage boy. "You ain't seen me. Ok?" She smiles briefly and starts running like crazy. Out of the booth, along the platform shooting head over heals towards the escalators, stumbling on her massive neon platform shoes. Light is spilling out of the tunnel. The train is coming in. Breaks scream and doors fly open, the thoroughly soaked after-work crowd spill out. Last of all a man in his forties, college teacher-like in his polo and blazer rises from his seat and steps into the booth, awkwardly fiddling with his gaming phone. Teenage boy stares in disbelief and palms his own device, vainly trying to hide it behind his back. College teacher reads some numbers on the screen and frowns. "She was just here, wasn't she? Pretty girl, a bit on the thin side, pink hair and big shoes, yes? I'm her father you see. She's gone...missing. Where did she go?" Teenage boy fidgets and makes for the train before the doors close. Too late. Teacher puts a hand on his shoulder, smiling thinly. Something is wrong with his eyes. "This way or that? You only have to point. No big deal, eh?" Teenager is downright freaked now. "That way. Just leave me alone will you. Please." Teacher sighs happily and bows ever so slightly. "Oh,

the respect for elders, an admirable trait in this age of Gomorrah.

One piece of advice kid – be careful what you do with that machine of yours. Keep playing those pretty killing-games. Keep playing sitting still and you will be safe and live to be a happy man with a happy life and happy wife. Never play on the run. Games and real life do not mix. Be safe. Be real." He turns away, touching the handsfree dial-unit as he starts walking slowly towards the escalators. "Montsalvant here, the subject is at my location. Making contact. Converge at your leisure gentlemen and blessed be."

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14.UNCLE ROY ALL AROUND YOU:
MIXING GAMES AND THEATRE
ON THE CITY STREETS

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ABSTRACT

We describe Uncle Roy All Around You, a mixture of game and theatre that took place in central London in late May and early June of 2003. Street players, equipped with handheld computers and wireless networking, journeyed through the streets of the city in search of an elusive character called Uncle Roy, while online players journeyed through a parallel 3D model of the city, were able to track their progress and could communicate with them in order to help or hinder them. We describe how Uncle Roy All Around You mixed elements of pre-programmed game content with live performance and behind the scenes orchestration to create a compelling experience, especially for street players. We suggest that finding ways to scale this approach to support larger numbers of participants is an important challenge for future research.

INTRODUCTION

Pervasive games are a new form of entertainment played out on the city streets. Players equipped with handheld or wearable interfaces move through the city. Sensors capture information about their current context, including location, and this is used to deliver a gaming experience that changes according to where they are, what they are doing and potentially how they are feeling. In collaborative games this information is also transmitted to other players who may also be on the streets or on-line. The net result is a gaming experience that is interwoven with the player's everyday experience of the city.

The research literature contains several early examples of pervasive games including Pirates! [3], the AR Quake project [9] and MIND-WARPING [8]. In this paper we present and reflect on a further example called Uncle Roy All Around You. The defining characteristic of this game is the way it mixes preprogrammed game content with live performance that takes place on the city streets. It can therefore be considered to be both game and theatre.

Uncle Roy All Around you is the latest in a series of experimental works in

which we have explored the boundary between multi-user games and theatre. These include Out of This World [6], Avatar Farm [4], Desert Rain [7] and Can You See Me Now? [5]. The latter was also a pervasive game in which up to fifteen online players were chased through a virtual model of a city by three performers (equipped with handheld computers, wireless networking and GPS receivers) who had to run through the actual city streets in order to catch them. Uncle Roy All Around You builds on this experience by placing the public on the streets as well as online and by adopting a less frenetic and more contemplative structure in which online and street players collaborate together on a mysterious journey across a city.

AN OVERVIEW OF UNCLE ROY
ALL AROUND YOU

Uncle Roy All Around You is a experience that mixes street players, who journey through a city in search of an elusive character called Uncle Roy, with online players who journey through a parallel 3D model of the city, who are able to track their progress, can communicate with them, and can choose to help of hinder them. The game mixes programmed content with live performance with the intention of creating an engaging experience that is themed around the issue of trust in strangers. This paper describes the première performance of Uncle Roy All Around You which took place over two weeks in late May and early June 2003 in central London, based at the Institute of Contemporary Arts. We now provide an overview of the experience from the perspectives of street players and then online players.

A street player's experience of
Uncle Roy All Around You

Street players purchase a ticket for a specific hour long slot (the number of simultaneous street players who can be in the game is limited to ten due to both technical and human resource limitations). On arrival at the venue they are asked to hand over all of their personal possessions including bags, wallets, mobile phones and keys, in exchange for a handheld computer. An actor then briefs them that their mission is to rendezvous with Uncle Roy and also explains how to use the interface on the handheld computer which takes the form of an interactive electronic map. They then head out into the city, cross a busy road and enter a park.

Their first task is to find a red marker on the map, to get to the physical location that it indicates, and then declare their position to Uncle Roy. In general, the street players are able to pan, zoom and rotate the map. Panning is achieved by dragging a 'me' icon that indicates their position across the map using a stylus, and declaring is achieved by using an 'I am here' button to send to current coordinates of this me icon to the game server. Whenever the street player declares their position to Uncle Roy they receive a text message from him in return. These messages are preprogrammed (Uncle Roy is not played by an actor).

Once the player has reached the marker, they move on to the second phase of the game in which Uncle Roy sends them a clues (in response to further declarations of position) that lead them through the park and into the narrow city streets in search of his office. Some of these clues are useful, but others are deliberately misleading or even mischievous (for example, at one point they are told to follow a tourist who is approaching them across a bridge; however, any such tourist is just a passing stranger who will lead them on a random chase for a while).

The street player may also receive messages from online players who appear to be following their progress and who send them text messages with advice,

directions or otherwise. Some street players may appear to have access to further useful information, especially the location of Uncle Roy's office. In return, the street player is able to record and upload short (seven second) audio clips for the online players to listen to.

Eventually most street players find their way to a door where they are asked to press a buzzer. The door opens and they receive a message asking them to step inside. At this point their handheld computer swaps over to a pre-canned and timed sequence of instructions. They are invited into an empty office and asked to look around. They are asked to fill in a postcard, answering the question "when can you begin to trust a stranger?" After this, they are told to leave the office and wait in a telephone box just outside. The phone rings and on answering it, a human voice (an actor) tells them to walk around the corner and wait. Shortly after, a limousine pulls up and they are invited to step inside. Those who accept are taken on a ride through London, back to their starting point. On the way they are asked a sequence of questions about trust in strangers, culminating in them being told that somewhere else in the game another player is answering these same questions and being asked whether they are willing to enter a year long contract to help this stranger if ever called upon. If they accept, then they are asked for their address and phone number.

Figure 1: A street player's experience of Uncle Roy All Around You. From top-left to bottom-right: in the park, on the city streets, entering the office door, inside the office, in the phone box and by the limousine.

The online player's experience of Uncle Roy All Around You

An online player's experience of Uncle Roy All Around You begins at an initial webpage where they can read background information about the game and review instructions on how to play. They then enter a queue (as the number of simultaneous online players in the game is limited to ten) from which they are eventually released into the game to find themselves in a 3D model of the game space. They can move their avatar through this (using the arrow keys on their keyboard), can encounter other online players and can send public text chat messages (which are seen by all of the current online players).
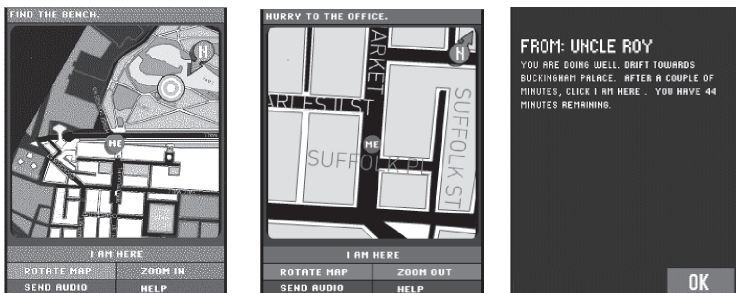

Figure 2: images of interface from the street player's handheld computer: zoomed out mode (left), zoomed in mode (middle), and a message from Uncle Roy (right).

They also see representations of the street players, both as a series of cards that provide background details (notes on name, gender, appearance and a photograph that was taken when the street player first collected their handheld computer) and also as a marker that shows the street player's current position within the game. Two distinct types of positional information are provided. First, whenever a street player declares their position to Uncle Roy, their representation is highlighted in the 3D model using radiating lines accompanied by a dramatic sound. The online players also see the clue that Uncle Roy sends back to the street player. Second, an ongoing representation of position is shown as a pulsing red sphere. This position is determined from the position of the street player's 'me' icon on their map and is updated whenever they pan their viewpoint. As an aside, we can see here that Uncle Roy All Around You does not employ an automated positioning system such as GPS. Instead, position is implied through map use, either explicitly through declared location or implicitly through panning of the map viewpoint. We refer to this approach as self-reported positioning and have introduced it in Uncle Roy to see whether it might be a cheap and reliable alternative to the use of GPS and similar technologies

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(see [5] for a discussion of the issues arising from the use of GPS in pervasive games).

Figure 3: The online player's interface of Uncle Roy All Around You showing their avatar (white figure), a street player (red sphere), street player cards, and public and private chat areas.

Online players are able to send private text messages to individual street players as noted previously. They can also listen to the most recent audio message from each street player. Online players can find information in the 3D model that street players do not have, including the location of Uncle Roy's office and also photographs of some relevant features of the game space such as an image of his office door. They can then engage the street players in an exchange of information in order to help them on their journey – or possibly to hinder them if they so wish.
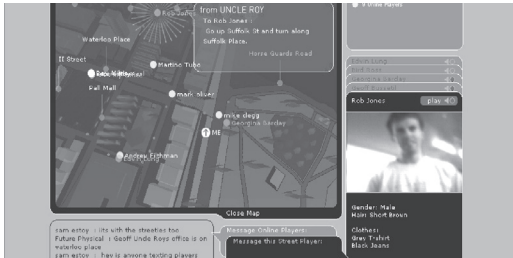

Figure 4: The online player's interface of Uncle Roy showing the map overview. The street player at the top (red star) is declaring their position to Uncle Roy.
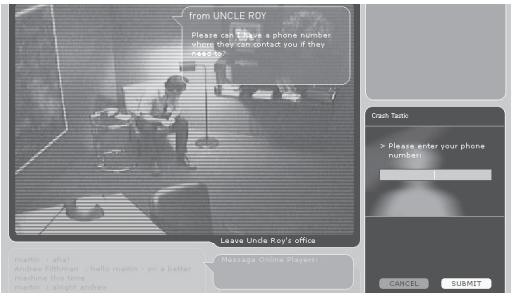

Figure 5: The online player looks into Uncle Roy's office through a webcam and is asked to give their phone number.

Finally, whenever an online player enters Uncle Roy's office, street players are invited to join them. If they do so, they see a live webcam view looking into the office which enables them to see the street player in person for the first time. They are then asked the same questions that the street player is asked in the limousine, including whether they will commit to help a stranger for the next year and if so, whether they are prepared to release their personal contact details.

After the game, we pair up those street players and online players who made a commitment to help a stranger and send them each other's details. They have now entered a year long contract with one another.

REACTION TO UNCLE ROY ALL AROUND YOU
A major theme of Uncle Roy All Around You is trust – trust in strangers, trust in online players, trust in Uncle Roy, and trust in the game itself. For street players it is about creating an extraordinary experience that calls into question their relationship to the city around them and its inhabitants. For online players, it is about being able to monitor street players, knowing more than they do and being able to influence or even manipulate them from a safe and anonymous distance.

At the time of writing, Uncle Roy All Around You has been staged once, in central London over two weeks in May and June of 2003. During this time it was experienced by 272 street players and over 200 online players.

Reaction from both the players themselves and the press has been largely positive. In a five-star rated review, London's Metro newspaper described the experience as "one of the most exhilarating theatrical experiences you'll encounter" adding "so you leave feeling contemplative, thrilled, and ever so slightly paranoid. What more could you ask from theatre?" Player feedback through questionnaires (one hundred completed immediately after playing) and email suggest that we managed to create an engaging experience. This was particularly true for street players who on the whole seem to have found the experience pleasingly disconcerting and scary (there are many references to such feelings on the questionnaires). The following paragraphs quote one street player who emailed us an account of her experience. We include this long quote here as it directly relates to many of our subsequent observations.

"My initial feelings were of slight paranoia because you knew you were probably being watched and certainly monitored. I felt very much on my own with no one to confer with or discuss how to do it, or if it was the right way. This was accentuated by the thought that people may be watching you 'doing it wrong'. I couldn't help but look around me to see who else might be in on it. There was only a limited amount of guidance, just enough to increase apprehension and maximise the impact of the experience.

Players were asked to leave all possessions at the ICA so I had no watch, mobile or map. This worried me because I didn't know the area and when directed to Pall Mall or other places, I had no idea where these were and unfortunately, the people I asked for directions got it wrong resulting in me heading in the wrong direction. This, however, didn't detract from the experience. Generally, I was quite apprehensive before the experience because it was something I have never done before, and after the explanation, I felt just as worried! I would have rather played with a partner but it was good to have that 'on your own' feeling which is a feeling that is quite hard to provoke in a person.

At one point near the end you were directed to get into a car. I felt uneasy about this because you 'never get in a car with a stranger' but you assume it must be part of the game because of the sequence of events that lead you to that point. I probably wouldn't have got in the car if there weren't this sequence of events leading up to it.

I found the game very absorbing and felt compelled to talk to two other players solidly for two hours afterwards which is a first for me. It was good that everyone had different experiences and that not everyone completed the game, although I felt like I had completed it by accident rather than any level of skill. I am intrigued to find out why I sent a post card and to whom and what is the outcome of it. This gives the game a level of continuation and suspense. I thoroughly enjoyed the experience. It is unlike anything I have done before."

Reaction from the online players was more mixed. Our impression here is some managed to engage with the game, understood how they could interact with the street players and invested a great deal of effort in guiding them to Uncle Roy's office. Inspection of game logs, especially private messages to street players, reveals that a few online players also seemed to enjoy manipulating the street players in other ways, scaring and teasing them or sending

them in the wrong direction. However, other online players reported being confused about how to play the game, the purpose of the game, their specific role within it and how the use the interface. Our initial sense is that the online experience may have worked far better for those who had already been a street player as they had acquired an understanding of the street player's goal, situation and maybe even feelings, combined with knowledge of the physical game zone, including the location of Uncle Roy's office. Another important factor may have been the number of street players who were in the game. There were times when there were very few – sometimes none at all – in which case there was little for an online player to do. Conversely, the game would still have purpose and be quite playable for street players, even if there were no online players present. On reflection, it appears that Uncle Roy All Around You was primarily focused on delivering an experience to the street player in which on-line players could also engage.

MIXING THEATRE AND GAMES IN UNCLE ROY ALL AROUND YOU

In the final part of this paper, we highlight some of the techniques that contributed to the experience of Uncle Roy All Around You, with a particular focus on the ways in which live performance and programmed gameplay were mixed together in the street player's experience. This mixing of theatre and game occurred in four key aspects of the game: initial briefings; using passersby as unwitting actors; crossing the boundaries of normal behaviour; and in the general orchestration of the experience.

Initial briefings

The quote above suggests that first introduction to the experience, a carefully rehearsed briefing by an actor, played an important role in setting the whole tone of the experience. The briefing was quite formal

and served to put the player in the role of someone who is on a mission. At the same time, having to leave their personal possessions behind them served to heighten tension, remove familiar props and increase dependency on the game. Retrieving them again at the end of the experience also provided a natural closing point. In a sense, they were stripped naked before being sent out into the city and were no doubt already in a state of heightened tension.

Using passersby as unwitting actors

Some of Uncle Roy's clues, such as the example of the tourist on the bridge mentioned previously, implied that passersby were in on the game when in fact they were not. Some of these clues gave instructions such as "Look for a woman with black hair. She will show where to go" and "If you can't see the street, ask someone discreetly for directions", while others made intimations such as "When you are sure no one is watching, cross the street and go down the steps." Such clues suggested that Uncle Roy was controlling elements of the real world around the players. While this was true later on in the game in the office and limousine, it was not the case when following the clue trial. Such clues, combined with the knowledge that online players were clearly watching them, seemed to know where they were and also what they looked like, seem to have led some street players to assume that the physical game space was populated by actors – or at least to question who was an actor and who was not.

Crossing boundaries

There were several moments at which street players were encouraged to cross the boundaries of normal and indeed safe behaviour within a city. The first of these was to walk around the park and then the city streets using a handheld computer to follow instructions without having access to money or a mobile phone. The second highly significant moment was

being asked to enter a strange empty office, look around and fill in a post card. The third and most provoking was being asked to get into a limousine by a stranger. These appear to have been powerful moments for many street players and they clearly drew heavily on live theatre. The office and the limousine, although both real, were controlled theatrical sets and the chauffer was a performer. It seems that an important part of the game was being given permission to step outside of the normal boundaries of behaviour within the (presumably) safe and controlled context of a game.

Orchestration

The final aspect of the game that mixed live performance with preprogrammed gameplay was orchestration. This refers the activities involved in ensuring the smooth progress of the experience and dealing with technical and other difficulties with minimal disruption to players' experiences [7]. Orchestration was a particular concern for us because our street players were on their own on the city streets, using unfamiliar technology and remote from technical support. Orchestration activities were centred on a control room located behind the scenes in which a team of two people monitored the game and tried to intervene when necessary. They were supported in this by a management interface that enabled them to track the last reported positions of all players and to inspect the technical status of any player in detail. This interface also enabled them to intervene directly in the gameplay by changing the state of individual players, for example manually advancing them to the next stage of the game. Intervention also involved live performance. First, the control room staff could improvise text messages to street and online players in the voice of the game – for example, generating new clues from Uncle Roy. Second, there were also three actors on the streets whose job it was to generally monitor the activities of the street

players and to approach them and help them out (for example, resetting their handheld computers) if so instructed from the control room (over a walkie-talkie channel), as well as two performers responsible for controlling access to and managing the experience of the office. A final facet of orchestration was the role of the public text chat forum for the online players. This provided a valuable channel for more experienced online players to brief less experienced players as to how to play the game and resolve technical difficulties.

SUMMARY AND THE CHALLENGE OF SCALE

Uncle Roy All Around You has demonstrated ways in which games and theatre can be combined to create experiences that mix street and online players. One of the main techniques used to create a compelling experience – especially for street players – has been to mix preprogrammed content with elements of live performance. We can generalize this approach by observing that the content of Uncle Roy all Around You can be divided into three distinct layers.

- First, there is preprogrammed content, i.e., automated experience that is generated by the system in direct response to players' interactions. For the street players this consists of the clue messages from Uncle Roy and the pre-canned sequence of instructions in his office. For online players it consists of a 3D virtual model and its embedded information.
- Second, there is live performance. This involves rehearsed performances by actors that take place at key moments. Importantly, it also involves communication between different players, especially between online and street players.
- Third, there is orchestration, activities that mostly take place behind the scenes to manage the experience, but that sometimes spill over into the 'front of house'.

Street players experience all three layers. Live performance from actors dominates the beginning and end of the experience, while preprogrammed content provides the core of the middle part – following the trail of clues. Careful orchestration is required throughout. Communication with other players on the other hand, sits above these in the sense that it provides added value, contributing liveness and unpredictability, but is not strictly required (street players can complete the experience without online players being present). In contrast, online players experience more of a skeleton of preprogrammed content, no performance from live actors and little orchestration, beyond self-orchestration through the public text chat channel. Instead their main experience is centred on communication with the street players. For them, the experience largely depends on whether they can successfully engage with a street player and understand how to guide them.

We propose that this approach of mixing live performance and games can deliver powerful experiences. However, it also raises a major challenge for future work. Can it scale to larger events that involve many more players? Uncle Roy All Around You required significant human resources – a team of more than ten actors and crew – to deliver a rich experience to twenty players at a time. The challenge is now to find ways to mix programmed content with live action that scales up to supporting audiences of several hundred, to be a viable form of mainstream theatre, or many thousands, to be a viable form of computer game.

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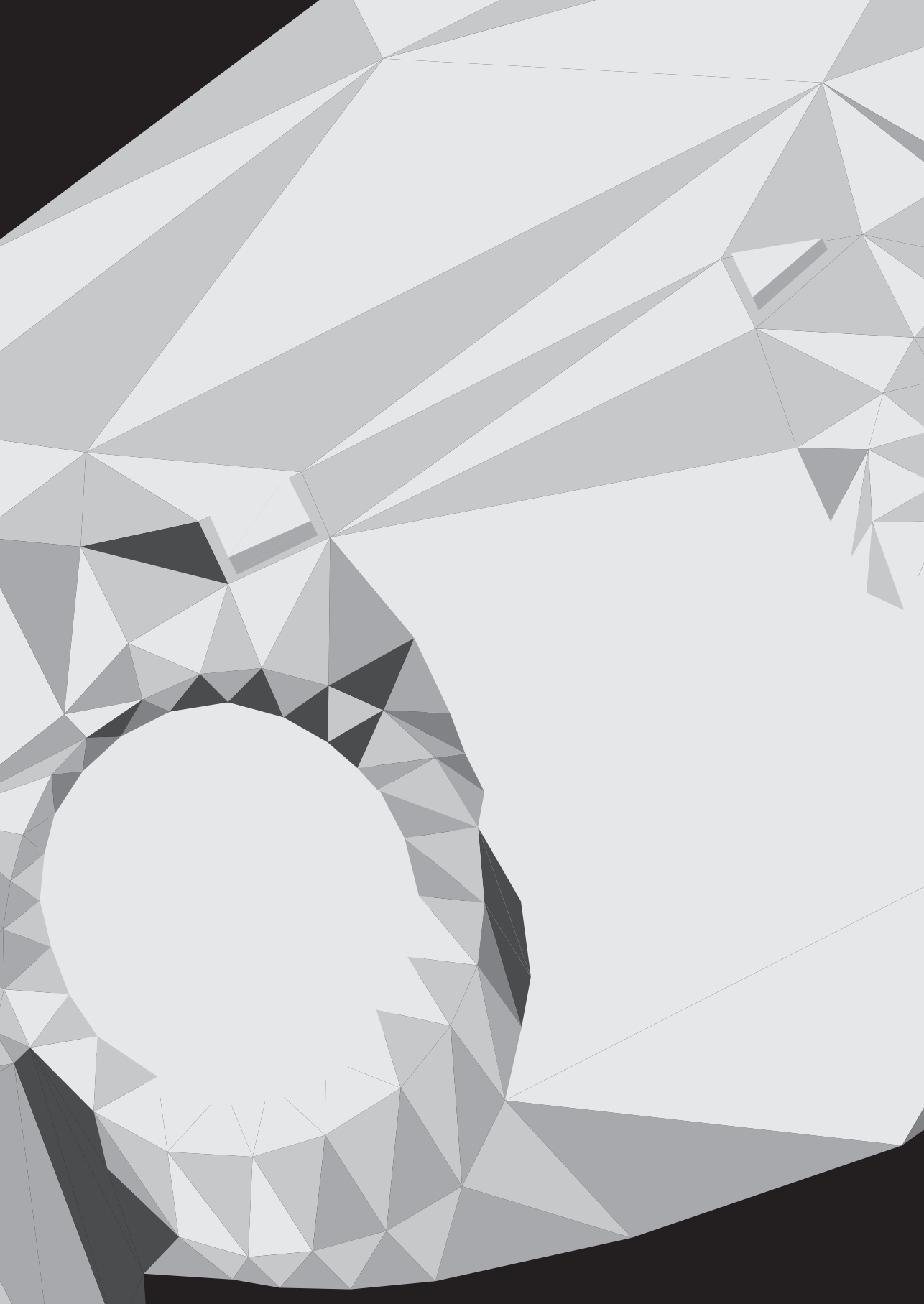
DESIGN

- DESIGN PATTERNS
- ARTIFICIAL INTELLIGENCE AND AVATARS

II

15. GAME DESIGN PATTERNS

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ABSTRACT

We present a model to support the design, analysis, and comparison of games through the use of game design patterns, descriptions of reoccurring interaction relevant to game play. The model consists of a structural framework to describe the components of games, and patterns of interaction that describes how components are used by players (or a computer) to affect various aspects of the game play. Focusing on the patterns and identified methods for using them, we describe the development of the model and how we are currently working to enlarge and validate the collection of patterns.

KEYWORDS

Game Design, Patterns, Taxonomies, Game Models

INTRODUCTION

The interest for developing a field of game research, ludology, has steadily been growing over the last few years. But games vary greatly, not only in content and game play, but also in medium and why they are played, which offers many approaches to the subject. This can be observed by looking at current research, which is done by applying methods and concepts from a wide range of research fields, e.g. sociology, pedagogy, literature studies, media studies, and computer science. In addition, this work is being done with many different research goals in mind such as answering questions regarding player activities, describing narrative structures, finding best practices for game development or fulfilling artistic challenges. Assuming that a unified approach to studying games is optimal, what framework can encompass this diversity?

In this paper we present a general framework for the study of games based on game design patterns. The paper begins with an overview methods currently used in industry and academic, which form our motivation to use game patterns. We describe the components of our framework together with examples and ways of using the framework. The paper concludes with a discussion on the perceived strengths and weaknesses of the approach as well as future work.

Industry

Digital games have become a major industry with the most popular games selling over a million copies each and total yearly sales in the range of billions [39]. To manage the big projects that a major game release requires, the

industry uses a mixture of techniques and concept borrowed from software development, the movie industry, and traditional games. Although this works, as seen from the games reaching the market, there is an explicit concern among professional game designers that a developed design discipline for digital games is lacking (e.g. [14, 41]), especially one developed to support the multidisciplinary groups that in practice create the games. Although the demands of delivering games on deadline leave little time for developers to pursuit research, there are examples of designers who work on models for game design (c.f. [15, 43, 48]) but these are few compared to the games being designed, and are seen as exceptions to the normal game designer. Beyond the problem of managing game projects, the game industry has been perceived as stagnating; mainly producing sequels, expansions, conversions to other platforms, or brand-based games (c.f. see the commonality of sequels in sales in [21, 22]). Undeniable an economical sensible strategy, at least short-term, the successes of repackaging have been described as a challenge to the creativeness of designers [42].

Thus, parts of the game design industry is seeking methods that can bring more structure to game design, in order to expand the design space of games beyond what has previously been commercially successful. Other current issues the industry is seeking answers to include making games that make full use of the context of new platforms (mobile phones and PDAs), structured methods to discuss merits of a game design, and knowing what patents exists that can influence the possible choices when creating a concept.

Academia

Not counting mathematically-oriented subjects such as game theory, most work within the field of game research has either describes the historical development of a game genre, often together with a taxonomy, (c.f. [3, 26, 38] or explored the role of games from a sociological approach [11] or as cultural phenomenon [20]. In contrast, the study of digital games have often focused on games as a medium for story-telling and thus been based on theories and methods from narrative fields such as literature, theatre, film etc. (c.f. [28, 29, 34, 36, 37, and 46]). Recently, there has been a strong interest from applied research in how new computer technology (c.f. [23]) that has been used to explore new interaction forms within games [2, 5, 6, 12, 16, 19, 40, 44, 45] (or sports [35]). These systems have usually created a new context for game play while those who wish to maintain the traditional game setting have embedded computational technology in traditional components [18, 33] or cards and game boards [30, 32].

Thus, there are many examples of scientific and academic interest in games. However, the results have mostly stayed within one research field, probably due to the highly specialized language within all research fields, which has limited the development of game research.

The Need for a Common Language for Games

Looking at the work conducted both within academia and industry, one can conclude that there is a need for a language to be able to talk about game both while designing games and while analyzing game play. To reap most benefit from such a language it should be usable by the all interested parties to maximize knowledge transfer. This makes it difficult to ground any game-centric language in one research discipline or engineering practice. Although concepts, methods, and theories from numerous fields can, and should, be incorporated into a conceptual game language we believe that the foundation for such a language should be created from studying games as a phenomenon in itself.

RELATED WORK

Genres

The use of genres such as sport games, first-person shooters, strategy games etc. are the most common way to give product information about computer games. However, the definition of genres strongly depends on the popularity of various games which is not surprising as the "genre conceptions originate mostly from game journalism, not systematic study." [24] Looking at the academic field, the game taxonomies mentioned earlier [26, 38] (but also [15]) can also be seen as genre collections, although the term genre is not explicitly used. However, when genre identification is based on the interactivity, a categorization can easily result in 42 different genres [47], something that has been argued to potentially make their usefulness suffer [25].

Due to these problems of trying to define genres that are both generic and relevant within a specific subcategory of games types, we do not propose that a redefinition of the concept of genre would provide a feasible basis for a common language of game research. Instead we believe that finding components that can be used to describe genres would be beneficial to all types of categorization of games.

Game mechanics

A natural starting point in trying to identify the components that constitute a genre is to find the common components in the games that are used to exemplify the genre. When studying various communities of gamers and game designers we found that many used the concept of mechanics or mechanisms.

However, the definition of a game mechanic is general ("Part of a game's rule system that covers one general or specific aspect of the game" [9]) and not useful for academic research. A typical mechanic is "roll and move" that simply states that dice are rolled and that something else is moved related to the outcome of the die roll. The mechanic does not state how something should be moved or why; this is determined in the rules for the particular game. Computer game designers also frequently use the term mechanics but the term is not strictly defined – it is used both in the way it is used for board games and within technical programming contexts [30].

Even though lacking a rigorous definition the concept of mechanics, i.e. that a game can be regarded as an entity put together by a number of smaller components, seems to be very useful. However, as has been argued [25, 31], a structure to define mechanics more rigorously and include information about their relationship as well as how to apply them seems necessary.

Other related models

In addition to genres and game mechanics, a number of alternative approaches have been suggested, primarily from professional game designers. Although they have not been widely applied within either the game industry or academia, they are mention here as they have been important influences to our approach.

Writing to a designer audience, Church [13] introduced the concept of Formal Abstract Design Tools (FADTs) as a way to reach a shared design vocabulary. Although he stresses the importance of formalism and abstracting away from specific instances, the FADTs are one sentence descriptions. For example, the FADT Perceivable Consequences is defined simply as "A clear reaction from the game world to the action of the player."

Barwood & Falstein have introduced 400 Design Rules project [4]. The aim of the project is to collect proven game design rules and techniques which are stated as instructions. Consisting of the sections

Imperative Statement, Domain of Application, Dominated Rules, Dominating Rules, and Examples Aliases the rules are aimed at practical game design and are less suitable for analytic studies.

DEVELOPMENT OF OUR MODEL
Theoretical foundation

Most academic research to date has studied games using terms and concepts from narrative fields such as literature, theatre and film. The focus on narrativity that this naturally brings risks that the aspect of interaction is lost; something that can be argued is a more defining characteristic to games than narrative structures. This emphasis of narrativity may have resulted in the limited success of academic results being adapted by other disciplines and by the industry. To avoid this, we wished to find a basis for a game language centered on interaction rather than narratology. With interaction we mean both the interaction between players playing a game and the interaction between players and the game.

As we described in the section above, the use of game mechanics seemed to be a promising starting point to describe interaction elements in games. However, to be able to use such collections of game mechanics more effectively, a structure to describe how they influence each other would be required. Design patterns [1, 10, 17] is a method of codifying design knowledge in separate but interrelated parts and have been used to describe game elements related to interaction [27]. Further, game mechanics can easily be converted to design patterns making it a seemingly ideal candidate for our model. However, design patterns are not ideally suited as analytical tools due to their initial introduction as a problem-solving tool:

> "Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that prob-

lem, in such a way that you can use this solution a million times over, without ever doing it the same way twice." [1, p x]

So while design patterns seem to be applicable for our use, we argue that not all aspects of design can or should be seen as solving problems, especially in a creative activity such as game design which requires not only engineering skills but also art and design competences. To support these activities a redefinition of the pattern templates would be required.

Empirical development

In order to develop a suitable pattern template, individual game design patterns and the overarched structure we proceeded by gathering data through a variety of methods.

Transforming Game Mechanics
Given this initial conceptual framework, we proceeded by examining game mechanics and converting them to patterns. This included discarding a number of mechanics, merging some mechanics into one pattern and especially identifying more abstract or more detailed patterns.

Harvesting Patterns by Analyzing Games
The second approach to create an initial pattern collection was by "brute force" analysis of existing games, concepts and design methods of other fields (such as architecture, software engineering, evolutionary biology, mathematics, and interaction design), and extrapolating possible person-to-person and person-to-environment interactions from the fields of sociology, social psychology, psychology and cognitive science. Our method for harvesting consists of five iterative steps: recognize, analyze, describe, test and evaluate. The recognition phase creates a quick pattern candidate collection around a certain idea or

interaction area. The next step is that the collection is analyzed by describing how the pattern is used in example games and then trying to remove the pattern from the games and explaining how it would change the game play. The pattern is then described using the developed pattern template. The description is tested by creating a simple prototype game utilizing the pattern and finally the pattern is evaluated using usefulness and sufficiency of the description as criteria. As the work progressed the strict five step method was transformed to a dynamic, recursive one where pattern fusion, mutation and creation of new candidates was possible at almost every stage. The different phases, however, were still used but not in a strict sequence. The result was over 200 pattern candidates together with unexplored but promising areas of interaction.

Interviews
In order to collect information about how game development uses game concepts we interviewed 9 professional game designers that together represented designers of the full spectrum of game mediums. All used the terms genre, theme and mechanisms casually; this was clearly concepts they were very familiar with. However, they didn't mention very many mechanics by a specific name (perhaps because there are no standardized names and no collection). The typical exceptions (for board and card game developers) were Bluff, Tension, Action Cards, Storytelling, Trading, Action Points and Cooperation. Some of the designers were themselves interested in creating structured frameworks for games and several of them were already aware of design patterns methodologies.

All though the data has not be fully analyzed, the interviews provided feedback that our proposed solution was compatible with the way developers worked as well as providing many concepts that could be developed to become patterns.

AN INTERACTION-CENTRIC MODEL FOR GAMES
The development of our model for games and game play has been alternation between working on a structural framework that describes the components of the game and the game design patterns that describe player interaction while playing. Although the two parts are the results of an intertwined process they can be used independently; the structural framework can be used without the patterns to describe games and the use of design patterns can be based on other structural frameworks. Due to limited space, we do not present a detailed description of the structural framework and refer interested readers to the companion paper to this paper [8].

Structural Framework
The structural framework was developed from an initial analysis of how the terms used to describe games. This framework was expanded and refined by examining the relationship between the terms as well as try to use the structural framework to describe games and interaction in games.

On the highest level of abstraction the structural framework consists of game instance, game session and play session which logically and temporally delimits the activity of playing a game from other activities. To describe the actual games, components are used that belong to one of three different categories: bounding, temporal and objective.

The bounding category consisting of goals, rules, and game modes, is the most abstract and include components that are used to describe what activities are allowed or not allowed in the game. The temporal category consists of actions, events, end conditions, evaluation functions and closures, and describes the temporal execution performed during game play. The objective category consists of play-

ers, interfaces, and game elements (e.g. tokens, dice, cards, player avatars, NPCs, movable objects, tiles, backgrounds) and represents components that are physical (or in the case of digital games virtual). Game elements have control/action structures and information structures (including scores, attributes, etc.) which dictate how players can affect the game and what knowledge they have of the game state.

Game Design Patterns

Unlike most design patterns we have chosen not to define patterns as a pure problem-solution pairs. This is due to two observations. First, defining patterns from problems creates a risk of viewing patterns as a method for only removing unwanted effects of a design. In other words, using patterns as a tool for problem-solving only and not as a tool to support creative design work. Second, many of the patterns we have identified described a characteristic that more or less automatically guaranteed other characteristics in a game, i.e. the problem described in a pattern might easily be solved by applying a more specific subpattern.

Name
Although not explicitly stating this in the template, we have in the naming process of patterns aimed at short, specific, and idiomatic names. The main purpose for this was not to provide intuitive names, but names that could provide mnemonic support after the pattern description had been read. In the cases where patterns were adapted from concepts in other research fields, we have maintained that name to provide a link to that field. We have deliberately not included aliases to minimize the number of names that need to be remembered; we instead take an approach similar to that of a dictionary by provide synonym-analog in the form of references to similar concepts in other models and fields of study.
Description

The pattern starts with a concise description of the pattern, often with notes on in which game it was identified and if the pattern has been identified in previous models. Further, the description contains information on how it affects the structural framework (especially if the pattern can be instantiated on different scales in the game) and examples of games in which the pattern is typically found.

Consequences
Each solution has its own trade-offs and consequences. Solutions can, in turn, cause or amplify other problems. To take a design decision for or against a given solution, its costs and benefits have to be understood and compared against those of alternatives. This section describes the likely or possible consequences of applying the solution suggested by the pattern.

Using the Pattern
As patterns are general solutions the application of a pattern to any given situation requires a number of design choices specific for the current context. However, the high-level choices can often be divided into categories. This section is used to mention the common choices a designer is faced with when applying a pattern, often exemplified by specific game elements from published games.

Relations
Here the relations between different game design patterns are stated. These are basically three forms of relationship: patterns that are superior in the sense that they describe more abstract characteristics (often mentioned in the consequences section) and can be implemented by applying the given pattern, subpatterns that can be used to implement the given pattern (often mentioned in the using the pattern section), and conflicting patterns that are difficult to implement with the given pattern.

Pattern examples

GAME DESIGN PATTERNS

During our work we have found over 200 game design patterns which we are currently describing and testing. To give better understanding to our patterns, we present one pattern below whose effect on games have been described several times in other forms (see the references in the description). Italic texts indicate referenced patterns.

PAPER ROCK SCISSORS

Description: This pattern is based on the children's game with the same name. It means that players try to outwit each other by guessing what the other ones will do, and by tricking other players to take a wrong guess on one's own action. The original game is very simple; after a count to three both players make one out of three gestures, depicting rock, paper or scissors. Rock beats scissors, scissors beat paper and paper beats rock. That there is no winning strategy is the essence of the pattern: players have to somehow figure out what choice is the best at each moment.

This game pattern is well-known with the game design community (sometimes called "tri-angularity", see Crawford) and is a mnemonic name for the logical concept of non-transitivity (basically, even if A beats B and B beats C, A doesn't beat C).

Examples: Quake (relation between weapons and monsters), Drakborgen, SimWar, protogame to show non-transitivity (Dynamics for Designers, Will Wright, GDC 2003)

Consequences: Paper-Rock-Scissors patterns can either be implemented so it choices have immediate consequences (as in the game that gave the pattern its name) or long-term effects. In both cases it promotes *Tension*, either until the moment when the choices are revealed or until the success of the chosen strategies is evident. A paper-rock-scissor pattern introduces *Randomness* unless players can either gain knowledge about the other players current activities or keep record over other players behavior, as otherwise a player has no way of foreseeing what tactics is advantageous. If the game supports knowledge collection, the correct use of the strategies allows for *Game Mastery*.

Using the Pattern: Games with immediate consequences of choices related to Paper-Rock-Scissor usually have these kinds of choices often in the game to allow people to keep records over other player behavior. *Quick Games* using the pattern, such as the game which lent its name to the pattern, usually are played repeatedly so some form of *Meta Game* can be used to allow players to gain knowledge of their opponents' strategies.

A common way to implement the pattern for having long-term effects is through *Investments* to gain *Asymmetrical Abilities*, either through *Proxies* or *Character Development*. See Dynamics for Designers (Will Wright) for an example based on proxies. For this kind of use of the pattern, players can be given knowledge about other players through *Public Information* or in the case of games with *Fog of War* through sending *Proxies*. Allowing players to keep record over other players' behavior is trivial if play commences face-to-face, otherwise some form of *Personalization* is required.

Relations: Superior patterns are *Player Balance*, *Tension*, *Secret Tactics*, and *Game Mastery*. Subpatterns are *Trump*, *Randomness*, *Asymmetrical Abilities*, *Public Information*, *Investments*, *Proxies*, *Character Development* and *Meta Game*.

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The Art of Computer Game Design

APPLYING GAME DESIGN PATTERNS

Unlike earlier uses of patterns, we do not propose one single (problem-solving) method for using patterns. Instead, we see the patterns and the structural framework as a tool, similar to a pen, which can be used in several different ways for several different reasons. This is because we see several potential user groups which have inherently different working methods. This being said, we have identified a number of different types of uses that patterns can be used to support. Although we have yet to collect substantial amounts of data regarding the feasibility of using various approaches, we do believe that the use areas described below hold potential.

We do not state target users for the various proto-methods as we believe that this is highly dependent on the specific use context and how rigorously the users structure their use of patterns. For example, the act of categorizing games and genres may seem most suited for academics but could also be used by critics writing reviews or gamers making decisions about purchases. However, we stress that game design patterns are beneficial to multidisciplinary groups as they ease communication by being neutral definitions based on the interaction in games and not based on any research field or professional jargon.

Idea generation

Game developers can use the patterns to give inspiration by simply randomly choosing a set and trying to imagine a game using them. A more structured approach may be to study an individual game design pattern and try to implement it in a novel way.

Development of game concepts

Once an initial game concept exists, it can be developed using patterns. Describing the concept as a small set of patterns, it can then be fleshed out and more specific design choices can be made by deciding how to instantiate those patterns through subpatterns and studying how the different design patterns interact. The process can be iteratively refined by examining the chosen subpattern until the preferred level of detail is achieved.

Pre-production process

Having a game described using patterns offers advantages when presenting the game design to people. Besides allowing a structured description of the design, motivations for particular design choices (describes as patterns) can be done by relating to other games using the same patterns or by describing how replacing the pattern with other patterns would change the design. This advantage is increased if the people already have been introduced to design patterns from previous game design as they easier can compare the designs.

Identifying Competition and IP/patent issues

As a side-benefit of having identified the patterns in a game design, one can identify competition, in the form of what the game will be compared to, by the examples given in the patterns. Further, references in game design patterns may point to patents that can influence the development of commercial game products.

Problem-solving during development

Similar to the rational for FADTs and the 400 rules, game design patterns are a way to collect the knowledge and experience of game developers. As such, they contain descriptions and motivations for how one can modify game designs to solve issues relating to game play in a design.

Analyzing games

The availability of a pattern collection can provide a simple way to start analyzing an existing game. By simply iteratively going through the collection and see if a pattern exists, or rather, to which degree a pattern exists in a game. Further information about the game can then be gained by studying if previously identified subpatterns are used to create a pattern or if novel elements have been introduced.

Categorizing games and genres

Assuming that a patterns-based analysis has been performed on a collection of games, these can then be categorized by their similarities or differences. Besides offering a multitude of dimensions of how to measure in what way games compare to each other, collections of patterns found in games belong to a genre can be used to describe or understand that genre.

Support to explore new platforms and medium

As mentioned in the introduction, the game industry has due to the economically successful model of sequels and branding become what can paradoxically be called conservative. This lack of going beyond existing frames exists not only in thematic and game play styles but also in platform. We believe that the use of patterns can help the exploration of new types of games and they can provide a structured way to compare how game play changes with a changed environment. This is especially likely for novel game mediums such as pervasive gaming which is a development of computer games but need to function in social conditions similar to those where more traditional games are played.

DISCUSSION

Our work with game design patterns is still in its initial stages and as such we have identified several different areas of work required to be able to draw more substantial conclusion of the feasibility of game design patterns in various use areas.

Further, even if a pattern approach satisfies the need for understanding games and game design, some issues may hinder the wide-spread use of patterns in game development and research. In the lack of a collection of suitable patterns, the process of making a pattern collection which would be useful is difficult and time consuming. Making one large collection containing all identified patterns in an encyclopedic endeavor may solve this problem by containing all possible sets of required patterns, but finding the specific patterns in the day to day design work may be too time-consuming especially as identified patterns may be linked to many patterns that are not

relevant to a particular case. This problem has led us to start investigating ways of aiding users to quickly identify relevant patterns without an extensive know-how of the collection, and will probably require differ-ent solutions to each of the suggested use areas.

Validating patterns

To create the pattern collection, we have engaged in various activities as described in the empirical devel-opment section. The identification of the same game design patterns in very different kinds of games (Carcassonne and Qix in one example, Pac-Man & King of the Hill variants of FPS in another) we believe to be indicators of the value of patterns to under-stand interaction in games.

The use of patterns in analysis has already proven fruitful in analysis of the games Pac-Man, Missile Command & Mind-sweeper in a research-orient work-shop[1] and the patterns have also been used in vari-ous experimental game prototypes [7].

However, to validate the analytical, problem-solving and communicative values of patterns they need to be put to use. To support this we are in the process of making all patterns available online as well as engaging both industry and academia in workshops focusing game play analysis or experimental game design.

Creating the pattern collection

One of the problems with creating the design pattern

is determining exactly how much unique information is required for a concept to be a pattern in its own right and not just a variant or comment mentioned in a (superior) pattern. Although we currently flavor an inclusive approach and with an evolutionary refine-ment process based on use and feedback from researchers and designers, we note that it might be desirable to have a slightly weak superior pattern if it has several clear and useful subpatterns or to have an insignificant pattern as a separate pattern if it has more than one superior pattern, in order to show the connection.

Subpatterns & Superior Patterns.
The structure of the pattern collection is not a strict hierarchy but a network with several base nodes. Although we have not found and circular structures, our current definition of the sub-superior pattern relationship can be unintuitive for certain user groups. Further, we have identified case when the sub-superior or potentially conflicting relations are insufficient; for example, some groups of patterns are normally used together to instantiate each other.

Navigating the pattern collection

With over 200 pattern candidate identified, we have already identified the problem of finding the relevant patterns for any given situation. This problem is especially apparent to new users of methods using game design patterns and to address this we are seeking various forms of categorizing patterns for different use areas, game themes and relations to

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[1] Although not finally analyzed, material from the workshop can be found at http://www.gamedesignpatterns.org.

our structural framework. One especially interesting line of research would be to use game design patterns to define game genres and then explore if these patterns are those which are most useful for development or research within those genres.

The Danger of Stereotyping
Some may object that the use of patterns takes the creativity out of game design or renders the designers as "mere pattern cranking machines" that automatically churn out games. Another common fear is that the use of patterns will lead to a situation where all the games follow the same pattern and fall into stereotypes where nothing new is or can be created. These both stem from confusing the everyday meaning of pattern as something repetitive with the actual basic philosophy of design patterns as introduced by Alexander. In one sense the choice of pattern term might be regarded as a mistake but as the term has clear and firmly established meaning in several professional fields we see not necessity for inventing new terminology, something that would indeed lesser the usefulness of the pattern concept as a tool to overcome communication differences in various professions. A more appropriate comparison of the use of patterns is to the artistic endeavor in general: the artist has much better chances to create something novel when familiar, though not necessarily consciously, of the basic elements of her craft, be it painting, composing or scriptwriting.

CONCLUSION

During our research, we have identified the need for a unified vocabulary and common concepts regarding games and game design. Studying earlier approaches to create common vocabularies, we have concluded that it is appropriate that such a vocabulary emerge either from terms and ideas that are already rooted within the gaming community, or that

suitable concepts, terms and methods are taken from other disciplines and are carefully adapted to the gaming field without adopting larger conceptual structures. In addition, the supplements should focus on the interaction in games, rather than on e.g. narrativity. Furthermore, they need to be applicable to all kind of games to avoid the risk of being stuck in the developed conventions of digital games. As a solution to these problems, we propose the use of patterns.

In line with this, we have created a collection of patterns, primarily based on transforming documented game mechanics or well-defined concepts from other research fields. This collection has then been the basis for initial tested of use areas for game design patterns. These tests have confirmed our belief that game design patterns are usable for analysis, comparison and design of games; thus useful in most aspects within game studies, in turn making them a suitable candidate to serve as a basis of a lingua franca within gaming. We do not believe that the use of game design patterns is the final solution to finding a common language for ludology. However, we believe that many of the characteristics of design patterns will be included in such a language, and that continued work with design patterns will help reveal truths about game and game play until such a language is found.

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16. DELIGHTFUL IDENTIFICATION & PERSUASION: TOWARDS AN ANALYTICAL AND APPLIED RHETORIC OF DIGITAL GAMES

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ABSTRACT

This article discusses first steps towards a specific rhetoric of digital games where general rhetoric makes up the scientific discipline of strategic communication and symbolic action by means of identification and psychagogy. Therefore, this work contributes to the fundamental and general question why and how players become consubstantialised and persuaded with game designs, and stick to gameplay these games. Accordingly, a first conceptual model is introduced and discussed. It features three interrelating dimensions which engage a symbolic, a structural, and a systemic coupling between player and game design during gameplay within an experiential eigenworld of reciprocal control, mastery, and empowerment.

KEYWORDS

Rhetoric of digital games, general rhetoric, psychagogy, digital games, theory of games, game analysis, game design, game design patterns

INTRODUCTION

Why, and how do digital games make us play with them – what, for example, are their argumentative strategies of make-believe like, shaped by possibilities and necessities? How, on the other hand, do games induce constant cooperation and persuade us to play, and keep playing[1]? And thus: What signifies the relationship between game design(er), gameplay, and player?

Let us sidestep typical answers according to which the fundamental reason for playing human-computer based games is either *learning* [9] [10], or *motivational captivation* through aspects of intrinsic motivation such as confidence, control, challenge, fantasy, or curiosity [24] [25]. Rather, let us combine these introductory questions by asking more precisely: What is the – empirically approximated and social-, media-, and neuro-psychologically rooted – rhetoric of digital games?

[1] Note that my discussion does not reflect how researchers use persuasive techniques to define play in the sense of Sutton-Smith [34].

[2] It should be mentioned that this is an exemplary media effects / marketing studies publication. Although the term "rhetoric" is mentioned therein, it is merely understood and empirically ar quality rather tha strategic and effe here.

Granted: Comprehensively responding to this last matter would likely take much longer than one paper. But the attempt is worthwhile, and overdue to commence with: When designing digital games requires thinking about digital games, and thinking about these games requires designing - or at least: prototyping - them in the first place, a rhetoric of digital games can ultimately serve the purpose of bridging the worlds of *creating games* (that is, applying such a rhetoric) and *thinking about games* (that is, analyzing games along such a rhetoric). This paper shall provide a first attempt to offer such an *anastomosis*.

General rhetoric - as the mother of all media theory - has provided specific rhetoricae with this same goal for other forms of symbolic action, strategic communication, and effective expression, as well: think of speech and public performance [1] [8] [30]; painting [37]; interior architecture and ornamental design [14]; design aesthetics and general aesthetics [27]; general design [4]; interface design [3]; and entertainment mass media such as radio, TV, and film, see e.g. [33][2]. As a performative approach towards means such as participant entertainment and/or enjoyment, general rhetoric may best be explicated with the Greek term "psychagogy", that is, literally, guidance [in the sense of: tossing, spw] of the soul.

Hence, in this paper, I define gameplay as a rhetorical performance between player(s) and game design, a symbolic action that takes place amongst agents involved in playful human-computer *eigenworld* cooperation on the basis of identification-making, and persuasive operations. I will use my German-English neologism *eigenworld* because (1) it elegantly describes an autarkic, idiosyncratic, but still self-constrained social situation; and because (2) there is no equivalent translation to the original term "Eigenwelt" I would use in German, rather.

Triadic Relationship between Game Designer, Game, and Player

Above mentioned *rhetoricae* encompass a triadic relation between the (1) *designer and communicator* of a certain content (in classical rhetoric, usually referred to as the *orator*); (2) the *communicans* itself including its performance; and eventually, (3) its receiving audience, which can be a group of agents, or an individual agent. The whole of the process I understand as symbolic action in the sense of rhetorician Kenneth Burke, see [6].

Hence, one could define rhetoric as the science and art of persuading a receiver to couple with a message, and through the message, to couple with the communicator. Although mostly unidirectional in its original communicative process setting - a message is conveyed from the most important communicative factor, the orator, to the audience, see [8] - and without any agent participation of technological mass media, modern mass media force modern rhetorical theory to re-read this pristine triad which had been best expressed by Aristotle's original definition of *písteön tría eídë* [1].

Overview

In the following, I present first steps towards a digital game rhetoric by further investigating a triadic activity relationship between game design, game, and player. I will first refer to related research; then move on to a description of general rhetoric and its core operation, persuasion; following which I will introduce and discuss a draft model that shows how identification-making and persuasion between gameplay participants takes place through systemic, symbolic, and structural couplings. I end with future research issues and conclusions. A more detailed introduction to this research including illustrations can be found in a forthcoming publication [38].

RELATED RESEARCH

Researcher Drew Davidson has presented his own "gameplay rhetoric". As opposed to my holistic (both analytical *and* praxeological) attempt here, which renders rhetoric's core feature and duty, persuasion (and identification) multi-dimensionally with regard to gameplay, Davidson adopts rhetorician Wayne Booth's idea that there is a rhetoric of fiction at work in literature, and re-reads this idea concerning games, where rhetorical elements serve as "'friends of the [player]' that exist within" the gameplay of games. These mechanics have rhetorical elements that serve the purpose of conveying the game's techniques and rules enabling play." [11].

Other writings that have influenced this article include attempts to standardize, or systematically bring to terms, and/or examine scientifically (mostly digital) game design issues, for example the ontologically operating Game Design Patterns Project [18], Noah Falstein's fabulous "400 Project – Rules of Game Design" and his monthly column in the Game Developers Magazine, see e.g. [13]; Rollings/ Adams [31]; and Crawford [10].

WHAT SIGNIFIES GENERAL RHETORIC?

In this section, I define and discuss rhetoric as a scientific discipline concerned with symbolic action, identification, persuasive operations, strategic communication, and proper (cross-medial) expression and present its technical core, persuasion, as well as the latter's relevance for digital games.

Analytical, applied, and performative psychagogy

Rhetoric is the science of strategically communicated symbolic action and choreo-graphed expression through theory, analysis (lat. *rhetorica docens*), design/creation, and performance (lat. *rhetorica utens*) [36] [21] [22].

At the heart of rhetoric: Persuasion

When Aristotle writes that "The speaker's character may almost be called the most effective means of persuasion he possesses." [1: bk. I, chapter 2], then I would like to reformulate this citation with "The medium's character – its gestalt, composition, in short: its design – may almost be called the most effective means of persuasion it possesses". Thus, the design of any given artefact is effective should it be able to persuade an individual, or a mass of individuals, to do what its message, such as entertainment, wants the individual to do; for example, play a game of *Tetris*. The process of persuasion influences the choice-making of others in that it, naturally, persuades them to change their status of "unplaying" to playing in the instance of playing games:

'Persuasion involves influencing the audience's mental state, commonly as a precursor to action. Although a number of mental states may be the focus of a persuader's attention, social-scientific persuasion research has given pride of place to attitude, understood as the general evaluation of an object, such as a policy, proposal, product, or

person. Hence, much of the relevant social-scientific work concerns attitude change, because such change represents an exemplary case of rhetorical success.' [29]

An attitude can be defined as a "psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" [12]. An entity – an object of evaluation– can be concrete (for example, a "digital game"), or abstract (for example, "entertainment") circumstances. At the same time, a single entity (somebody else's newly bought, or rented digital game) or a class of entities (digital games per se) can exist as an object of evaluation. Classifiable behaviors (to play a digital game), or a class of behaviors (a sequence of interactions with(in) a game constituting gameplay) may function as an object of evaluation. A persuasive message can nevertheless lead to a change in attitude - a change from inactivity to enactment - provided only if six information processes phases have been successfully absolved [26].

Players would, accordingly, (1) need to be confronted with a presentation of a certain situation to be evaluated; (2) the player would need to spare attention to that situation given; (3) the player would then need to comprehend the situation; (4) the player would need to accept or agree with (be positive about wanting to play) the situation. In order for this act of acceptance and the change of attitude to become behaviorally manifest (6), the player would need to stick to this change of attitude in at least temporarily stable fashion [32].

From the last paragraphs, we can come to the understanding that the change of activity from "unplay" to "play" can be interpreted as a persuasive operation where the change of attitude from favoring "play" over "unplay" becomes behaviorally manifest in the form of starting to play, and keep playing.

TOWARDS A RHETORIC OF DIGITAL GAMES: A MODEL

On the road towards a specific rhetoric of digital games, we need to rethink general rhetoric: Thus, we now dare to find a rhetorical key to digital games themselves.

Identification as a key to a rhetoric of digital games

One core feature of digital games is interactivity [10]. As a social psychologist, anthropologist, and rhetorical theorist and practitioner, I am convinced that we should, complimentary, look at digital games from a human-computer activity perspective involving symbolic actions.

This perspective, however, almost immediately calls for (willful, involuntary, voluntary, conscious, or unconscious) acts of cooperation between human and computer, because there would be no human-computer activity if there was no cooperation between these two agents. So we are in need of the putty that explains why humans cooperate with computers in the first place.

Kenneth Burke has rethought rhetoric in this context, although without thinking of, or addressing specifically computer games, or human-computer activities. The term "consubstantiality" – or, co-equally used by Burke [5] [6] the term "identification" – signifies the textual metaphor of a social psychological mechanism which Burke understands as (1) raison d'être of all cooperation, first, in face-to-face situations, and second and macroscopically speaking, in society and other communicative settings; and (2) as cause of all social cohesion. This definition correlates with the social psychological evidence that identification serves a major role in keeping an individual's, and a group's, psychic balance [16]. Whereas Aristotle put forward an audience centered

rhetoric where the aim of the *rhetor* is on gaining audience assent, Kenneth Burke suggests that rhetoric is identification, meaning "The generation and fulfillment of expectations through the use of symbols (forms)" [5], and that there cannot be any form of persuasion without a prior form of identification between two interacting agents.

So from here on, I define digital game design "as a symbolic means of inducing cooperation in beings that by nature respond to symbols." [5]. To Burke, these identification symbols can consist of "speech, gesture, tonality, order, image, attitude, idea" [6]. I find it exciting to imagine and analyse digital games, and specifically their gameplay – *def*. experiential human-computer-cooperation-in-symbolic-action – neither as a story/narrative, nor a plaything, nor an idea, but rather as a multi-medial (sic!), experiential, possibly delightful, moving, or educational operation of constant argumentation between player and game design, containing consubstantialisations and, consequentially, persuasions where the use of one agent's symbolic actions induces actions in another participating agent so that player and game design couple through gameplay – *in short: in (flowing) gameplay, we are observing a rhetorical performance (loop).*

This makes even more sense when we conceive that in digital games, a player enacts two roles at a time, that of a witness, and that of a player/participant. Media psychology calls this personal union an act of para-social play between player and play figure/character. As opposed to entertaining movies, where protagonists as media figures (a) trigger an affective disposition in the individual observer and (b) rest upon that individual's moral beliefs, so called socio-emotions, in the case of digital games, the witnessing player/participant addresses herself emotionally in the form of so "ego-emotions" [20]

With the found key of identification puttying player and game, one central question arises once we start thinking about an analytical and applied rhetoric of digital games in the following section: By the way of which dimensions does this coupling take place, and how?

I am of the opinion that we can think of three dimensions which will be discussed in detail in the upcoming sections:

• A *systemic coupling* takes place through gameplay, so that gameplay represents an eigenworld of reciprocal power, control, and mastery. The "player model" and the "game design model" coincide conceptually (and rhetorically) in(to) the "system image", that is, the gameplay eigenworld. This view is analogous to the Aristotelian 'orator – meaning/message - audience (gr. *písteön tría eídë*) model when we replace Aristotle's "orator" with the function of "game design", and his "audience" with "player". This view is also analogous to Human-Computer Interaction research's definition of [game, spw] designer virtually meeting the user [=player, spw] in the [game] system image by the way of coinciding mental conceptions [28].

• A *symbolic coupling* between these two agents of human-computer activity takes place, too, theoretically based on the works of Burke. In this second case, gameplay itself can be described as a performance loop of symbolic game action based on the player's *identifiedness* with the game design, and her *persuadedness* with the third coupling dimension.

• A game design's motivational call character in the form of offers and demands [20] *structurally couples* the player's expectations, motives, and

needs through social psychologically verified "functional circles" [15] in the game eigenworld. These link joints connect player and game design (a) sensumotorically[3], (b) semantically; (c) syntactically and eventually (d) through self-appealing offers and demands such as order; closure; displacement of self; audit & probation etc., see [15]. Structural and symbolic coupling interrelate strongly, as they root on tagging, and thus persuasive and motivational processes between player and game.

Figure 1 provides a visualization of aforementioned dimensions, as well as of processes detailed in the sections below.
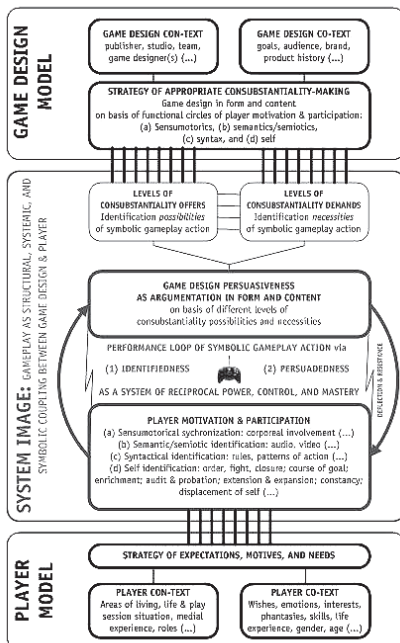

Symbolic and structural dimensions of a rhetoric of digital games

In this subsection, I outline dimensions of my model that describe gameplay as a performance loop of symbolic game action based on the player's *identifiedness* with the game design's consubstantiality offers and demands, and her *persuadedness* with the game's argumentation surfacing in the form of functional circles, its (a) sensumotorics, (b) semantics; (c) syntax; (d) self-appealing offers and demands such as order; closure; displacement of self; audit & probation, et al., that appeal to the player's motivation and participation. Motivation and participation themselves rest upon the player's strategy of expectations, motives, and needs.

Link joints between player and game design
In his milestone article and book - unfortunately so far only available in German language – Jürgen Fritz [15] analyses and describes these functional circles on basis of a number of empirical player and game design studies conducted at the University for Applied Sciences in Cologne.

In situations of gameplay, these link joints (as Fritz calls them) engage a social psychologically based *structural coupling* between player expectations, motives, and needs, and the possibilities offered of the game to motivate the player. Thus, I argue that a given game's persuasiveness comes into play argumentatively by the way of rhetorical game design offers and demands aiming to first make the player identify – "consubstantialise" à la Burke - with the game, and second, persuade her to play, and keep playing; this operation is an operation of symbolic action between a human and a computer agent, a player and a game application and its inherent design.

Figure 1: Structural, symbolic, and systemic coupling have game design and player cooperate and perform through gameplay.

[3] "Sensu-", or "sensomotorical" signifies not only corporeal (in/output, navigational, direct manipulative etc.) movements, but also body motion, and player perception.

So in the eigenworld of gameplay between these agents, something is at stake; and wherever and whenever anything is at stake, power and control, as well as subordination and resistance - which could also be "channel deflection," [22], rhetorically speaking - are being negotiated between agents involved into the game. This negotiation takes place within a given set of rules, or by breaking these rules willfully, voluntarily, or accidentally. Especially in the realm of playful human-computer symbolic action, where gameplay structurally couples the game designer and the player in the computer generated game world, we can understand this game world as a system of power, control, and mastery negotiation between player and game designer by the way of actual gameplay.

Empowering the player in a control environment
From here, it seems plausible to think of game design as the craft of, literally, empowering the player whilst at the same time, it is the trade of effectively controlling and steering the player's activities. It is here, too, that both practice and scientific discipline of rhetoric re-appear on the scene. Psychagogy is the goal of rhetoric, whereas its means – strategic communication in the possible form of entertainment – follows the rhetorical end, persuasion. In rhetorical situations – universally speaking, situations when something is at stake, and parties try to gain medial control whilst granting rational, emotive, or delightful empowerment - persuasion most likely appears in the form of argumentation. A speech can formally

and content-wise argue for or against something, as well as a text can be argumentative, as can be a physical building, a piece of pop music, or a software application. The whole purpose of any given game design is first, to have a player identify with a game, and second, to persuade a player to play the game, and to keep playing: we can call these form of *identifiedness* and *persuadedness* a successful structural coupling between player and game design.

Game design strategy and argumentation
Thus, a game design's strategy and argumentation (its motivational potential) will consist of relational structural elements – aforementioned link joints – that, ideally, will connect with the player's personality traits and her life context [15] at full. Said motivational potential equals the game's "offer", opposed by the player's "expectation" [15], and makes up a game design's fascination. I will introduce the aspect of "game demand" equal to the game offer in the subsection following this paragraph. Let me fist name said functional circles:

• **Sensumotorical synchronisation**. This pragmatic function circle has a player latch (mostly) corporeally into the events on display; the player starts to automatize body movements according to the game design's requirements until, only ideally, in perfect sync [15.]. This choreography includes mouse movements to accomplish in-game interface tasks, as well as mimetic reactions from untrained players who co-curve with their electronic cars in races, or co-jump with their

locum tenens during jump & run games, for example. I would suggest that with the player, sensumotorical synchronization can cause the whole spectrum from pleasure and internal exuberance to feelings of regimentation and, see also [7].

• **Transferral of meaning.** This semantic function circle encompasses the semiotic events on display which the player construes. Usually, a player re-constructs the game in accordance to the (genre-typical) directions the game design implies through its implicit and explicit meaning structures. An ego-shooter, for example, requires a player to witness herself shooting other participants, whilst simulating to shoot them from a first person point of view. Game designs can bear (not-so-)complex themes, role offers, typical patterns of action, and dramaturgies on many experiential levels. Graphical, aural, and other sensual semantics transfer meaning to the player [15].

• **Rule competence.** This syntactical function circle controls the player whilst the player aims at gaining power of the rules of the game design, and thus the game-in-play. The circle contains game rules, and gameplay mechanics such as game world border, which the player learns to acknowledge, and apply. The player also realizes relationships between game objects and/or mechanics, and applies the rules (or breaks them) to approximate a personal in-game-strategy of behaviors to keep up motivation, and succeed with game events, and challenges. Combined strategies point at certain game genres, and a player's competences help her to develop cognitive skills needed to master the game, eventually. In this case, we can speak of optimal player rule competence; note that in my opinion, game pattern [18] competencies, too, are specifically symbolic gameplay action orientated in that they offer sequences of rules, and mechanics.

• **Self reference.** This dynamic function circle resembles psychodynamic and psychodramatic game arrangements [15] with the goal to appeal to, and help express the internal player world by offering a stimulus configuration it can relate to within a world without physical sanctions. A player's wishes, interests, emotions, skills, and/or fantasies may be allured by (basic) patterns of life accomplishment re-appearing in digital games uch as order; fight; closure; course of goals; enrichment; audit and probation; extension and expansion. These patterns make up for the dynamics of games. Apart from the possibility to substructure Fritz's overview, for example "closure" into (a) predictive and (b) dramatic closure – see [17], I would complement Fritz's list with other patterns that may fulfill neuro-psychological functions, for example displacement of self..

Game design offers and demands
A majority of players regards computer games in general as a synthesis between medium and toy [20]. We can describe the motivational potential/"call character" of digital games (and, implicitly, of their design) not only in terms of offers as outlined in the preceding subsection, but also in terms of demands. So simultaneously, digital games do not only offer *symbolic identification possibilities* to the player, but also demand *symbolic identification necessities* from the player once the game is cooperatively performed through gameplay.

We can deduct that thus, game design is deeply rhetorical in the sense of a *rhetorica utens*, that is: *an applied psychagogy*. Not only the orator (the game designer) is actively pursuing to guide, but the audience (the player) takes over this role and becomes, temporary, the designer of the game played herself. Any player, we could say, playing a game, designs her own game experience in the very moment the game is played; this holds true especially when we take

digital games as forms of experiential human-computer activity rather than say, functional activities.

Gameplay as system of reciprocal power, control, and mastery
I think it possible to argue that in toto, the major (rhetorical) goal of any given game design is to convince people to convince themselves to build their own (eigenworld) game experience. Gameplaying a digital game can thus be defined as the reciprocal shifting of control and power by the way of Fritz's functional link joints that couple game and player, and in parallel, game design and game design "user". From less a rhetorical, and more a social psychological view, games are successful when they have the power over a player to keep playing, whilst to the player, a game experience is being successfully mastered when it is under control.

Systemic Dimension of a
Rhetoric of Digital Games
Systemically, and from a digital game design standpoint, game applications represent a form of rhetoric that is rooted in conventional interactive system design, mostly in terms of how the game has been designed conceptually to be both understandable, usable, *and* experiential. This way of looking at the rhetoric of digital games interrelates with the structural and symbolic couplings presented in the above. How exactly will need to be shown in future research.

We can define that a given game design operates as a formal rhetorical argumentation along the Aristotelian triangular model of (a) orator, (b) speech, and (c) audience; only that in the case of digital game design, the orator element is represented by the (to a) game designer; (to b) the game replaces the speech element; and (to c) a single player substitutes a terminologically rather blurry "audience". The structure – and. mind, not its rhetorical origin – of

this threefold model is analogous to the conventional relations of user, product designer, and design product [28].

Conceptual models in interactive system design
In order to better understand digital game design in general - and argue specifically towards the rhetoric of digital games - it seems therefore worthy to look at fundamental aspects in both interactive system, product, and device design, namely, (1) conceptual models, and (2) the visibility of design structure and functionalities.

Conceptual models, cognitive scientist and Human-Computer Interaction Design researcher Donald A. Norman states, "are part of an important concept in design: *mental models* [italics orig.], the models people have of themselves, others, the environment, and the things with which they interact. People form mental models through experience, training, and instruction. The mental model of a device is formed largely by interpreting its perceived actions and its visible structure. I call the visible part of the device the system image." [28] The system image derives from the physical structure that has been built and makes up the visible part of a device. In that, all communication between the system designer and the system user takes place through the system image.

Ideally, the "user's model" (the mental model developed through interaction with the system) is identical with the designer's conceptual model which Norman calls "designer's model" [28] In this optimal case of equivalence , "everything about the product is consistent with and exemplifies the operation of the proper conceptual model" [28] including its physical appearance, its operation, its responses, and its accompanying manuals, documentations, and instructions. When following Norman's argument, it becomes clear that the user of conventional soft-

ware products acquires all knowledge about the system from its system image.

What Norman calls the mental model signifies (in the sense of 'means') the model itself, as if a model is something that is unquestionably valid to each and everyone when properly crafted. Often, experience and empirical research in the qualitative social sciences show that this is not the case. The problem, however, does not lie with the model itself, but with individual meaning making. People tend to take models not for what they are, but what they mean to them in certain contexts, or, what they want these models to mean to them in the very moment the models move from periphery to center of attention, or when they identify a certain model or an element of this model that suits their concurrent desire best. So the interpretation of models – in Norman's rather mechanistic, functional view: their gulfs of execution and evaluation – often does not fail due to their deficit of visible self-explanation, but because people have different, individualised, one could say: custom, highly situative, con- and co-textual understandings of these models, see [2]. This holds true specifically when analyzing and designing a playful user's experience rather than, say, a (albeit user-centered) usable piece of software for that user.

So we as game designers have to assume that user experiences differ from subject to subject not only gradually, but substantially – it is only in real life projects that we usually cannot weave in this understanding into our products and apparatuses; one could also say that because players want to engage in a world-in-action visually, aurally, and interactively, their compelling encounter of that world represented by a symbol processing machine should have the human-computer activity designer (in the sense of Brenda Laurel: the playwright, see [23]) provide (1) actions - and subsidiary to this central goal – (2)

characters/thoughts, (3) language/communication, and (4) enactment within this world according to the following notion: "Think of the computer, not as a tool, but as a medium." [23].

In comparison to game designer Chris Crawford's sequential conversationality principles of well-listening – thinking – speaking [10], Laurel's design and analysis principles are much more performance orientated, that is to say: Laurel applies Aristotle's qualitative elements of drama, including their causal relations as found in *De Poetica*, to the construction and debugging of human-computer (play) activities [23]. Now, both drama based and conversationalist perspectives help us to comprehend human-computer activity from a systemic standpoint, but they do not thoroughly explain why and how people are persuaded to play, why they keep, and how they can be kept playing. Why? Naturally, neither Laurel nor Crawford, nor Rollings/Adams [31], think of human-computer play activities in terms of symbolic gameplay action, consubstantiality offers (coherent and proper identification possibilities), and consubstantiality demands (proper and coherent identification necessities) as outlined with the functional circles that serve as link joints between player expectations.

Conceptual models as systemic argumentation in interactive game system design
However, game designers "try to imagine what players will experience as they work their way through the game, trying to deliver the most exciting and compelling experience possible (...)" [35].

They must still heed functional aspects when designing digital games that encompass user interfaces. Whereas in conventional design, user tasks play a vital role for designing these systems, the two key aspects of the player's experience are

the goals they pursue and the environment in which they pursue them. Game designers often seek to keep players engaged by creating three levels of goals: short-term (collect the magic keys), lasting, perhaps, seconds; medium-term (open the enchanted safe), lasting minutes; and finally, long-term (save the world), lasting the length of the game. [35]

The "interplay" of these levels of goals, together with the tension between storyline and freedom of interaction gives the player the perception that "they have free will, even though at any time their options are actually limited." [35] This notion, eventually, exemplifies that next to a symbolic, and a structural coupling, a systemic coupling between game design and player takes place in the form of performative gameplay indicating a rhetoric of digital games.

CONCLUSION: TOWARDS AN ANALYTICAL AND APPLIED RHETORÌC OF DIGITAL GAMES: FUTURE RESEARCH

In this article, I have introduced a first and rough rhetorical model of how we can approach digital games symbolically, structurally, and systemically, for both their analysis, and their design. In how far this model of gameplay as cooperative - consubstantial and persuasive - symbolic eigenworld action and structural and systemic coupling between player and game design will prove usable, I will try and examine empirically in the future. Contrary to the exemplary notion that game design is about "environmental storytelling" [19], I propose to view delightful game design as the science and art of psychagogical expe-rience induction, and the conceptual craft of creating strategies of proper and coherent consubstantiality-making, and successful player persuasion within the game's space-time eigenworld.

Therefore, to me, game design represents the applied and practical aspect of a rhetoric of digital games. I also believe that this view should be testified through a lot of game design experimentation. As part of my ongoing doctoral research, and in order to meet my postulation of a rhetoric of digital games, I am currently working on building an applicable and analysis library of rhetorical game design figures (such as a *sensumotorical metaphor*, or a *syntactical metonymy*, for example) based on social psychologically validated functional circles as described in the preceding sections.

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17. ENHANCING GAMEPLAY:
CHALLENGES FOR ARTIFICIAL INTELLIGENCE IN DIGITAL GAMES

Darryl Charles

ABSTRACT

Computer power in recent years has been advancing very rapidly and as increasingly more Artificial Intelligence (AI) experts turn their attention to game design, there is a clear opportunity to think more radically about digital game AI design. We suggest that not only is it timely for significant AI innovation but that it is essential to appreciably enhance key interactive aspects of digital game design, create opportunities for novel gameplay scenarios, and to progress the medium as an art form. Issues arising from the enhanced utilization of AI in digital games are discussed and the implications for gameplay explored; such as affecting player emotion, moral dilemmas, player created stories, dynamic and adaptive game worlds, and character believability.

KEYWORDS
Artificial Intelligence, dynamic learning, gameplay

INTRODUCTION

AI is currently one of the buzzwords in the games industry, whether in game reviews, publicity or conferences, and in recent times the quality of a digital game AI seems to be discussed almost as much as the quality of graphics and other technical game aspects that relate to gameplay. The reason for this is obvious; when the game AI is well designed it can significantly enhance the game player experience and enjoyment, and it then also becomes a key selling point for the game – Halo (Microsoft, 2002) and Half-life (Sierra, 1998) are good examples of games that have benefited considerably from a high quality of AI. Nevertheless, while most games over the past four decades of game development have had at least a rudimentary element of AI, most digital games have only been able to allocate limited processor time to the game AI compared to other aspects of the game program. As a consequence game AI design has tended to be more functional than revolutionary. However, now as the computing power of our gaming machines increase to incredible levels and more of the graphics processing and game logic moves from CPU to GPU, we have begun to see more resources becoming available for AI. Perhaps understandably, most of the new computing resources that have become available tend to be used up immediately with incremental improvements of existing AI technology. Many of these improvements simply utilize the additional processor time so as to make existing AI routines more accurate, as with path-finding, or more refined, as with finite state-machine models. These more incremental

improvements are important, of course, but a case may be made for a more radical consideration of AI strategies and architectures within our digital game AI design.

In this paper a range of issues and ideas relating to the current state of digital game AI are explored. We then examine some recent, novel research and development, and move on to discuss a number of areas within game design in which the use of innovative AI can significantly enhance the variety and quality of gameplay within digital games.

THE CURRENT STATE OF AI
IN DIGITAL GAMES

In the early days of arcade videogames, releases such as Space Invaders (Midway, 1978), Pac-man (Namco, 1981), and Donkey Kong (Nintendo, 1981) used very elementary Artificial Intelligence that tended to comprise of a few straightforward rules and scripted events/sequences. Combining these approaches with an element of randomness in the decision-making enables behaviour to become less predictable, and a reasonably adequate illusion of intelligence was created. Many modern games also contain simple AI structure and adhere to a few straightforward principles such as: make the AI visible to the player, create AI in the mind of player and inject a small amount of randomness to AI calculations [10]. Add to this that a primary goal for implementing AI within a game as that of providing believable, expected, and consistent actions and behaviour [18], then we have a common-sense set of heuristics that form a good foundation on which to construct the AI for a game. The central message is straightforward; a player must believe that intelligent behaviour is being exhibited; otherwise any AI coding in the game – irrespective of how clever – is much less effective (except it improves game efficiency). The disparity between the amount of effort required to create effective AI and the gains

that are clearly visible and accessible to the player, is one of the main reasons why the use of AI in digital games has generally stabilised to a fairly straightforward and widely adopted standard model. The majority of games still use a fairly limited set of AI technologies such as finite-state machines for character and object behavioural AI, path-finding techniques – normally variations on the A* algorithm [17] – for character and vehicle movement, and an assortment other techniques such as event scripting, and a variety of decision making techniques. Over-riding these approaches is the general view that the use of illusion to provide an impression of intelligence is seen to be adequate or even superior to methods that attempt construct more realistic and complex models of intelligence.

If different genres are examined separately quite a coherent picture emerges of the types of AI used in particular formats of games. In racing games, for example, such as Gran Turismo 3 (Sony, 2002), the AI primarily involves the control of an artificial opponent in order to follow an optimum path on a racetrack (or similar) and may incorporate a higher-level plan in order to successfully navigate the course. The pace of games within the Real Time Strategy genre is not as frantic as in others, and so there is generally comparatively more processor time available for the AI. Games such as the StarCraft (Blizzard, 1998), and the Command and Conqueror (Virgin Interactive, 1995) series are among the best examples within this genre and demonstrate that most of the AI games of this type contain AI comprised primarily of pre-defined behaviour, high level tasks and strategic planning. However, because of the extra processing time available for AI in these games there is an opportunity to use more interesting and traditional AI techniques such as an expert system to drive the strategic planning of the game units [19]. The Adventure Game genre on the whole has a more

gentle format than a full-blown action game, though it may have elements of fast-paced action the modern adventure game is as likely to have a comprehensive set of puzzles to solve, such as in ICO (Sony, 2002) or Tomb Raider (Eidos Interactive, 1996). As with pure action games the artificial non-player characters (NPCs) in the game normally have their behaviour defined by a finite state-machine, and will also be given some rudimentary path-finding ability to track and chase the player character. The use of AI in this genre is perhaps not too "adventurous" because the gameplay is generally quite linear and directed – the focus of the gameplay is on exploration and problem solving. The Action Game contains some of the most frantic gameplay and the purest form from within this genre is the 1st person shooter (e.g. Doom – ID Software, 1993), and in particular the multiplayer varieties of the genre (e.g. Unreal Tournament – GT Interactive, 1999). Encounters between the player and game opponents are central to games of this type and as such a more complex and efficient character AI is generally required. The standard planning, path-finding and state-machine AI architectures are usually built into the NPCs as in action-adventure 3D games but often a significant effort is made to improve the effectiveness and believability of the artificial player opponent. Some innovation in the design of AI has taken place within this genre, for example, genetic algorithms and neural networks have been used to train Quake and Unreal Tournament "bots" off-line so that they will have an enhanced capability to react dynamically to unpredictable scenarios within the game. In recent years, games such as Half-life (Sierra, 1998) and DeusEx (Eidos Interactive, 2000) have demonstrated an evolution of the 1st person shooter action game to provide a very much more varied gameplay experience, and games of this type may now contain elements of role-play, adventure, action, and puzzle. This provides more opportunities for using unusual AI technologies, for example, intelligent story-telling is much more of a possibility. Half-Life was one of the first games to effectively use a flocking algorithm to simulate intelligent group behaviour in opponent troops. Along with Action Games, the Role Play (RPG) genre holds a lot of appeal for those us who are interested in developing more effective AI in digital games. Virtually all modes of digital game AI are applicable to this genre: player and non-player AI state-machines, path-finding, player-alterable AI scripts, developing story lines, intelligent environmental reactions, etc. An interesting example of an AI technology is within the game Baldur's Gate (Interplay, 1998), which provides the player with the option of changing some of the basic AI behaviours of their characters. Within the Simulation genre we have the social simulation game, The Sims (Electronic Arts, 2001). Love it or loath it, this style of game lends itself to interesting applications of behavioural character AI. The game is a bit like a Barbie (or Ken!) with a brain – you get to dress and house your player character (PC) etc. and your PC is also able to interact with the environment and other NPCs. The potential set of rules for a PC to learn is huge so preferably AI architecture should not be entirely rule based and the PC should continue to learn as the game progresses. The Sims is probably the first game to use "intelligent objects" in that each object in the Sim household radiates signals to a nearby Sim to pass information about it's status – e.g. a fridge could tell a passing Sim that it presently contains food.

In general, there has not been a great deal of ground breaking AI innovation in commercial digital games for reasons that has been previously discussed, and apart from the examples described above there have only been a few notable exceptions. For example, neural networks have started to be used more in games (e.g. Black and White), genetic algorithms have been used for training NPCs (e.g. the Quake

series), and various artificial life techniques have been adopted for unique gameplay scenarios (e.g. Creatures, Warner, 1996). There are also some promising signs of evolution in AI design within a few up-coming games such as Half-life 2 (Sierra, 2003) which promises contextual AI with regard to the environment, and Fable (Microsoft, 2003) in which the game environment and the non-player characters within the game world are said to respond dynamically and persistently to the exploits of the player.

THE CASE FOR AI INNOVATION

Not all game genres will benefit to the same extent from our pushing at the boundaries as to what constitutes AI within games, but there are a few central issues that can motivate us to consider our approach to AI design across the genres.

Quality AI Lends Itself to Enhanced Gameplay

One of the primary goals in producing a commercially successful digital game is to create a game with a high quality of gameplay – i.e. that the game plays well. Ultimately, this also has to be the primary purpose for coming up with new uses of AI for games and more fully exploiting AI technologies within games. Innovative AI approaches may bring increased responsiveness or speed in the game control mechanism, more believable AI, flexible character behaviour, or enhanced graphics, but in general the prospective game player will not care about these improvements except they are an integral part of what makes the game enjoyable to play [19]. So one of the fundamental goals of AI innovation within digital game design and development must be to enhance gameplay while maintaining or improving game efficiency. For example, in the crowded genre of 1st person shooters it is difficult for games to stand out from the crowd. One way for a game within this genre to make a greater impression in the face of the competition is to have a better or more believable AI. Half-Life (Valve, 1999) is a good example of recent of game that demonstrates at least one well-designed element of AI that significantly adds to the quality of gameplay. With Half-Life, the AI strong point is co-operative opponent behaviour, and the quality of the design of the AI in this game is such to make us consider our strategy as a player carefully. The artificial opponent seems to have an intelligence plan, which it appears to be able to adapt on the basis of player behaviour and how the encounter with the player pans out. The consequence of an improved game AI design and implementation for the player is that the game provides a more rewarding and interesting challenge than it would have done otherwise.

AI Innovation Leads to Novel Design and Gameplay

Related to the previous factor is the point that innovation of AI can lead new game design formats and gameplay scenarios. Although the games industry has become a very large market and it continues to grow at a steady rate, it may be argued that there is greater intellectual property poverty [14] per game than there has ever been. No doubt this is a complex issue and the reasons for the limited amount of innovation in the industry may be due in part to the financial pressures of publishers and their need to remain profitable (or survive in some cases). Nonetheless, the industry needs to continually revitalise and refresh itself otherwise it will stagnate, and one of the ways to avoid this inertia is through the addition of novel game compositions and gameplay scenarios. AI is still a largely untapped aspect of game design and may be utilised more fully to innovate in game design and gameplay. We will examine a few of examples of games that have attempted or promised innovation with AI in the next chapter, and we will progress to a discussion on the potential for innovation in future games.

Improved AI Increases the Degree of Immersion in a Game

Assuming that a player can initially be persuaded pick up and play a game, the responsibility of the game designer is to engender in the game player the desire to have "just one more go" and to encourage the player to keep coming back for more. One of the illusive characteristics that we pursue in game design that may add to the "addictive" nature of gameplay is game immersion. The Artificial Intelligence in a game is perhaps one of the most influential ingredients for enabling a game player to suspend disbelief long enough to become properly immersed into the gameplay. If characters or objects behave in an obviously unexpected – or unintelligent – way, then the game experience is very much diminished. The quality of graphics in digital games has reached an incredible degree of realism, as witnessed by games like Doom III (ID Software, 2003), and realism of visuals is important, of course, because many of us enjoy the "wow" factor afforded by the visual impact of the newest and most graphically advanced game – this facet clearly sells games. Visual realism is only a part of what makes a game world and the characters in it believable, if any aspect of the game shatters our immersive gameplay experience and we are less able to suspend disbelief within the game world. In other words we may have a beautifully created wall using the latest vertex and pixel shader programs to enhance the illusion of the game world existence, but the illusion is shattered when our supposedly intelligent character continually bangs his head off the wall in an attempt to get round it! This is only a simple example that we can all relate to, especially if we play games of the RPG (role play game) genre, but there are many other examples of AI behaviours in games that have a negative impact in our immersive gameplay experience. While many other immersive aspects of games have been enhanced substantially, innovations and enhancements in AI have been relatively slow.

Widespread Appeal

Perhaps not an obvious or much discussed issue relating to digital game AI but an important one nonetheless – that of attaining a more wide-spread appeal to entertainment of playing digital games. We need to keep the state of the games industry in perspective, the games industry continues to grow rapidly but it still represents only a small percentage of the entire entertainment and media industry. Even though there are a wide range of age groups playing games now, thanks in part to the release and marketing of the PlayStation and the more mature content of PC games, there is still a wide range of people who simply never even try to play a game, or simply give up after a short attempt. This again is a complex issue and relating as much to inherent negative perceptions about games and general apprehension in trying something new, but enhanced AI can play a role in the creation of gameplay that appeals more widely, either through new styles of gameplay or simply by enabling the game to recognize and react to a variety of abilities in a game player. Whether digital game playing will reach the level popularity and participation of the medium of film or whether the interactive nature, and investment of time will continue to be a bar for many, time will tell, but we can certainly encourage more people to enjoy playing games by using AI to create more dynamically adapting game environments, characters and stories. AI methods may be incorporated into games that are more intelligently interactive with the player and respond to the needs and desires of the individual player.

Digital Games as an Art Form

Related to the issue of widespread appeal, is that of the digital game as a medium for art. It may be said that the use of a digital game as canvas for art seems contrary to the goal of gaining more widespread appeal; after all art-house movies rarely

make as much money as a Hollywood blockbuster. However, it may be argued that for the industry to grow and for it to be seen less of an extension of the toy industry and more as an integral part of the entertainment industry, that games need to be developed that have an artist appeal and gain general critical interest. We are not particularly close to this goal as yet, and there are many innovations in game design and technology that are still required to more fully enable digital games as an interactive art form. We may move closer to this objective by creating more believable and dynamic emotions within characters, particularly in facial expressions. By developing more dynamically adaptive game worlds and characters for player-specific story generation, and including effective mechanisms for affecting more wide ranging emotions in a game player other than just fear and humour – e.g. sadness. As will be illustrated in the next section AI can have a large part to play in the pursuit of artist goals.

KEY AREAS FOR AI INNOVATION

In this section three key areas for research and innovation in digital games are highlighted: storytelling, dynamic learning, and affecting emotion. The importance of each of these to the development of improved or novel gameplay in future games is outlined and reference is made to some of the current academic research in the area.

Storytelling

A recent – and perhaps ongoing – debate relates to the role of storytelling within digital games [8]. While this dialogue has primarily been instigated by academics with an interest in game culture, it is still important for more technically focused digital game researchers understand the limitations for innovation with narrative and storytelling within the context of interactive entertainment. Aarseth [1] states that stories and games are "orthogonal concepts",

and this draws attention to the inherent inequality between traditional narrative methods and the interactive medium of digital games. Nonetheless, it is clear from the evidence of recent, commercially successful games, such as Half-Life (Sierra Entertainment, 1999), DeusEx (Eidos Interactive, 2000), Baldur's Gate (Interplay, 1999), and Warcraft III (Blizzard, 2002), that the development and telling of a story within interactive digital games is not entirely uncorrelated with less interactive media such as books, audio, cinema and particularly with verbal narrative. These games have been successful because the designers associated with these games have learned that they are not simply telling a story as you would in a less interactive medium such as a book or movie. They have understood that the implementation of a story within a digital game is not independent from the construction of the game levels and characters but that the game story must be considered as a wholly integral aspect of the game design and the game world, from the beginning of the design and development process.

The central issue is interactivity – digital games are created in essence to engage a player to actively participate. Although there are incidences of interactive theatre [3], interactive play environments [4] and, for example, a mother may dynamically change a storyline based on feedback from her child, by-inlarge most story-telling media apart from digital games require a mainly passive participation. Due to the interactive nature of digital games and other issues, such as game non-linearity and player led gameplay, it is quite natural that we attempt to use Artificial Intelligence to enhance the use of story within games. Recent research in this area has included methods for the intelligent control of camera in interactive storytelling [5], and approaches for the automatic generation of narrative within a game world from story scripts [24]. Although there has

been substantial improvement with the integration of story into single player games, especially in RPGs, there is still a considerable challenge – and opportunity – for AI design within specific genres.

As a case study let us consider an RPG sub-genre that has a lot to gain from an advancement in intelligent story telling or building – the MMORPG. The 3rd generation of MMORPGs are now upon us and it remains that within this genre the crucial element of story development and a player's dynamic relationship with the world is still rather limited and perhaps even stale; every player character in essence experiences the same story, which is developed through a combination of NPC interaction, mission/quest completion, monthly episodic releases, and explicit story quests (sometimes known as "vaults"). In current MMORPGs, players act out an individual story by simply playing the game in their own way and through the development of unique characters – this is particularly true if the player fully engages in role play. A player may gain some degree of fame or notoriety in front of other game players through inter-player co-operation and the culture of game fan websites. Although, this may be an effective strategy for a certain demographic of player, the majority of players prefer their gameplay experience to be contained largely to the game world. Within current MMORPGs a player character's story is still not communicated very effectively to other players sharing the same game world and the dynamic relationship between individual characters and the game world is still very limited. The challenges for interactive story development in MMORPGs are undoubtedly due to the massively multiplayer format of these games, as well as the size and persistent nature of the game worlds. However, these same factors also make it a necessity and even a priority that more interactive and dynamic technologies are developed. At the same time, these characteristics also present

considerable opportunity for game designers to create enriched, rewarding, and unique gameplay experiences with strong story elements. The development of efficient, intelligent methods and the creation of tools to set up more complex interactive mechanisms are essential in the pursuit of these goals.

Dynamic Learning

Learning technologies for digital games have become increasingly important [20]. Yet, while there a number of examples of games that use "offline" learning – for example, Quake III Bots may be trained using artificial neural networks or genetic algorithms – there are only a few examples of games that explicitly use "on-line" dynamic learning within a game. Black & White is the most high profile example of a recent game that utilises in-game learning – neurons are incorporated into an AI module for the game avatar, and these neurons are iteratively re-trained based on game feedback. The game uses a form of Perceptron [21] learning within modules, for example, to model an avatar's desire [9]. The output of the neuron providing a measure of desire based on inputs which represent levels of "desire sources" for avatar attributes, such as: hunger, tastiness (of food), and unhappiness. The agent architecture is loosely modelled in the first place from psychological/philosophical ideas.

Social simulation games such as The Sims (Electronic Arts, 2001) naturally lend themselves to dynamic learning; these games are based on interaction between characters and objects due to environmental and social input. A character makes decisions within the game based on their current state and the state of the environment, for example if a character is hungry and they are close to a fridge containing food then they will prepare some food and eat it. A character may change their preferences or

reactions over the period of the game based on "experience". Some academic research has begun in this area, e.g. [15], to create intelligent social controllers for agents that represent non-player characters. While dynamic learning is a very desirable feature in digital games for many reasons, e.g. dynamic game balancing to adapt to different player gameplay styles and qualities, it can be problematic to set up. The most significant issue with the implementation of this type of technology is that on-line learning can on occasion produce very unpredictable results; sometimes these effects serve to enhance but more often it leads to erratic game behaviour that reduces the quality of gameplay, and in worse scenarios will introduce dynamic game bugs. Testing, debugging and balancing games that incorporate learning is quite a challenge [2]. There are many obstacles in the way of developing generic, robust and effective dynamic learning algorithms and architectures for digital games but the potential rewards are great. Perhaps the greatest potential gain with on-line learning is with the dynamic adaptation to player behaviour, play patterns and skill levels. In particular, a worthy pursuit is to develop technologies that may learn where a player is being challenged too much or too little and modify player character attributes, opponent behaviour or game environment accordingly. These alterations may be temporary, just to finish a particularly challenging section or the changes may be implemented for a longer time and player's progress monitored. The flexibility afforded by dynamic learning mechanisms may also be used to counter a player benefiting unduly from – or being hindered by – unforeseen player behaviour or minor bugs in the game design. The capability of a game to self-adapt in these situations to prevent a significant deterioration in gameplay due minor design oversights and player behaviour is certainly a laudable goal. Research and development has begun in the area of

dynamic learning with techniques based around: adaptive genetic algorithms, recursive neural networks, emergent and evolutionary learning and a variety of hybrid methods. However, this is still a very young area of research with much potential for development.

Affecting Emotion

One of the ways that we become fully immersed into the worlds portrayed in novels and movies is by becoming emotionally involved with their story and characters. The relationship between cinema and digital games has been coming under scrutiny recently [13] and though the correlation is weak in many ways – due, for example, to the difference of interactivity – there is still a certain amount of positive cross-fertilization of ideas between the two formats. Run Lola Run (1998), and Groundhog Day (1993) are examples of successful movies that structurally resemble games, while there are quite a number of digital games that successfully borrow ideas from movies. Techniques such as multiple camera angles, cut-scenes, atmospheric music, and sound effects are used both within games and movies. Of course, there are many examples of failures with this crossover of ideas, particularly with the "licensed" game from a movie concept and vice-versa. However, games like Max Payne (Take Two Interactive, 2001), which implements a slow motion technology called "bullet time", Matrix (1998) style – this movie in turn borrowing from digital games – demonstrate that when appropriately used, movie-inspired features can appreciably enhance a game.

A wider debate relates to whether digital games can be art or are they simply entertainment, however for academics with a good understanding of digital game design, development and play this is not so difficult to answer; "it's a false distinction. Games are

a lively art. They are an art because they engage our senses, stimulate our imagination, encourage a playful and creative response, provoke powerful emotions, give shape to our lives and turn the computer into a toy. In other words, they are an art because they are entertainment" [12]. Commercial digital games are already very effective in setting up mood through music and in developing the player's relationship with a game character through high quality voice acting. However, up until recently it has been very difficult to realistically and effectively represent character emotion in the animation of body and face, in real-time within 3D games. This has limited the development of digital games both in gameplay terms and as an art form. When real-time character animation within digital games approaches the quality of Gollum in the recent Lord of the Rings (2002) movie, then we will have an improved opportunity to present increasingly interesting and complex gameplay scenarios that may involve more emotionally charged and even moral choices with more significant consequences to the player.

There have been a number of recent research developments that bring us closer to our goal of representing emotion in digital games. FAÇADE [16] is one approach, which is an attempt to deal with "expressive AI" by combining AI methods with story development and graphics. Other research focuses more specifically on the challenge of using intelligent methods for dynamic character animation [11]. There are a couple of facets to this type of research: developing character movements that animate intelligently, and the use of AI methods to improve that quality of animation. In the first case the goal is to have the character animate appropriately for both predicted and unforeseen circumstances. One approach to improve flexibility in character animation is to interpolate between frames of animation for all separate character body parts and to use an intelligent con-

troller in order to select combinations of animations. Mesh blending, in which a full character frame is contained in single mesh, can produce smoother animations by allowing more than one transformation matrix to affect the vertices that form the skin of a character, and a programmable vertex shader to affect the transformations [22]. The result is a character with more permutations of animation for the resources required.

A Neural Network may be used as the "decision maker" for an animating character and when paired to a fuzzy controller system this particular agent architecture can be quite successful [23]. Neural networks may have broader uses in character animation; for example, it should be possible to train a neural network to act as a transformation matrix in order to interpolate in the mesh blending technique described above. Added to this is the extra flexibility afforded by the improved functionality in graphics cards and graphics APIs such as DirectX. With DirectX 9 and the increased functionality of the HLSL (High Level Shader Language) matched and supported in hardware, there is considerable opportunity for improved intelligent animation methods. In turn, improvements in these technologies will support us in our goal to use AI to improve our representation of emotion in digital games.

CHALLENGES FOR ARTIFICIAL INTELLIGENCE IN DIGITAL GAMES

There is a positive future for AI in digital games, in particular because with a higher quality AI then novel and exciting gameplay permutations will evolve, however there are few challenges facing any AI innovation:

AI Standardisation: It would be beneficial for a set of base standards of commonly used AI technologies to be widely accepted and used by developers. There

is some evidence that this process has begun, for example, the International Game Developer Association (IGDA) currently has a group working on AI interface standards, which will outline a set of common standards based on current AI in games, that may be used by game development professionals throughout the industry and in the academic world. The increased interest in AI within games has also lead to a number of AI middleware products such as RenderWare AI (Criterion), and AI-Implant (BioGraphic Technologies) [7]. As the game development industry matures in its use of AI within digital games then the functionality that middleware AI products provide will stabilise to define a common subset, perhaps in line the IGDA standards, and so the development of hardware game AI cards/chips may become a serious possibility.

Catering for the Individual Player: Interactivity is at the core of any digital game and it will seem increasingly obvious as the use of innovative AI techniques in games becomes more common place that AI can enhance the interaction between the player and the game. In the previous section, three important areas of research and development for AI in digital games were outlined and some of the work that is already underway was discussed. In summary, AI techniques and architectures can improve the dynamic nature of the game world, providing a more intimate relationship and interaction between the game environment, characters, story and each player. Each player has an individual capability and preference for playing and there is a lot of scope for tailoring the gameplay to provide separate player experiences within a game. Of course, there are difficulties in providing dynamic game worlds, such as game balancing, testing game permutations to ensure a consistent quality of gameplay, and that due to the increased scope of more dynamic games then extra game content may have to be created. However, the potential rewards are great.

Overcoming the Limitations in Existing Approaches: The AI community at large will eventually need to come to terms with the limitation of rule-based systems. That the complexity of rule-based systems tend to rise exponentially with each extra rule required – and so game developers must deal with the fact that the added complexity demanded in AI architectures within future games may not be handled efficiently by current rule-based systems. For example, it may become more common to see character animation being controlled by neural networks or similar systems on the basis of environmental input the character. Many of the necessary AI enhancements imply not only an incremental change in architectures but also a fundamental rethink of some of the structures. There are a vast range of AI related techniques from within neural networks, and artificial life research alone that are untapped by the game development industry, and as the AI community at large has become more focused on techniques such as agents and belief networks there is a wide range of published work that may applied to constructing AI within game development.

AI Innovation in a Commercial Environment: Big licences, such as Tomb Raider, Sonic, and movie crossover titles sell in the games industry whether or not the game is well put together, and publishers are more likely to support games with a well-guaranteed market. Innovation of technology and gameplay can help sell games but it has more of an impact on the hard-core gamer than the general gaming population. Nonetheless, it should be accepted that for the gaming market to mature and evolve then innovation is necessary – the same style of game can only be repackaged and sold over and over for so long before the market stagnates. AI has a role in the regeneration of the industry and the attraction of new gamers.

Thinking Outside the Box: The discussion on future AI technologies in games may be opened up to even broader topics and issues. For example, will we be able to devise character AI architectures in which we can "grow" or evolve a game character off-line – independent from the game – and then insert this character into the game so that it will continue to learn. Could such a character be retrained and used in future games – a bit like a game actor? Would a player be able to extract an intelligent character from one game for use, with retraining, in a future game release? – like an extended, intelligent, version of the character game save. Whether this will happen time will tell, but potential new technologies like this do illustrate the point that a revolution of AI within game design and development may have a significant impact on game design.

Moral Issues: With more lifelike characters and realistic emotional representation in our games we may have to consider the moral implications of decisions made by gamers even more than we do now and deliberately design-in effective consequences for actions. Of course games that have a more cinematic impact is a worthy goal but we must remember the difference of interactivity between games and movies. Movie viewers are passive, whereas a gamer interacts with the game world and may affect outcomes. The moral issues become more significant as game characters approach some form of realistic consciousness [6]. Nevertheless, utilising AI to construct well-designed moral dilemmas and emotionally effective set pieces with games opens a range of new and interesting gameplay scenarios.

CONCLUSION

We have outlined some of the current ideas relating to the state of digital game AI research and development and used this context to motivate the need for AI innovation within digital games. Three areas of focus for future innovation were proposed. These areas – story-telling, dynamic learning and representing emotion – are not independent of each other, but often to progress in one area also requires innovation in another simultaneously. Though there are challenges to significant AI innovation, academic research within this area can lead to new ways of thinking about game design and provide exciting new gameplay styles.

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18.SUPPORTING VISUAL ELEMENTS OF NON-VERBAL COMMUNICATION IN COMPUTER GAME AVATARS

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ABSTRACT

Communication between players in networked computer games is often inadequately implemented. The games do not exploit the full potential of using different forms of communication possibilities between players, and therefore result in problems in sending and receiving messages. This paper introduces a model that describes how visual aspects of non-verbal communication (NVC) in avatars could be systematically designed. The model can be used as a guideline in the design process of more communicative avatars.

The study was conducted using a variety of research methods. The topic has been approached from both the constructive and theoretic-conceptual viewpoints. Non-verbal communication theories have been used as the framework to construct avatars for game environments and to form a model that supports the design of NVC elements into avatars.

The primary result of the work is a model that describes how to design more communicative avatars. The model introduces the aspects required when considering the designing of the visual elements of NVC. As an empirical result, the avatars based on the model determine how different elements of NVC work, and how NVC could be used in the avatar context. The results can be applied for design and construction purposes, as well as for further research into the diverse areas of avatar design.

The model describes three layers that can be used to guide the work of avatar designers and creators in supporting the visual elements of communication in computer game avatars. The model shows that designers and creators should search for the required elements of the NVC, vary these elements to form a rich set of ways to use them, and finally, personalise the avatars by selecting varied elements for separate avatars to support natural communication.

KEYWORDS

Non-verbal communication, avatar, avatar design, computer game, multi-player

INTRODUCTION

Computer games have developed considerably from their early days. Games have become more impressive in their visual, aural and technical aspects. The popularity of computer games has also greatly increased. These steps have brought modern multi-player games to the level that makes it possible to model more detailed avatars. This, in turn, provides new possibilities for communication between the players.

Generally, if players share the same physical space, they can yell and give visual signals at the top of their computer screens to convey messages to other players. However, if players are geographically separated, this is not possible. Most multi-player on-line games can convey basic information as to whether a player is crouching, running, or shooting. Still, the tools used to convey messages, such as expressions and gestures, have remained rather minimal. Some pre-recorded animation sequences and modifiable clothing have been introduced, but still the area of NVC in games is not yet even close to the potential it could achieve.

This research aims to provide tools for the design of visual NVC elements in communication between players. With NVC elements employed, players would be able to express themselves and to communicate more freely in different situations. In other words, players would gain a richer set of communication tools. NVC theories and results obtained from different research cases are used as the theoretical framework in this research. The intention was to examine how players can express NVC elements through their avatars. From this basis, a model describing the different aspects of designing NVC elements for avatars is introduced.

NVC is a wide and diverse topic, and consists of a variety of elements. It would, therefore, be an impossible task to include an exhaustive description of how all NVC elements could be supported. Consequently, only three elements have been chosen for closer discussion. These elements could be described as the visual elements of NVC, and correspond to facial expressions, kinesics and physical appearance. Movement of the eyes and the patterns of gaze are also visual elements, but are excluded from this discussion due to the limitations of the used experimental technology.

This research is primarily constructive in the sense that the avatar constructions and the model were built. As a result, the constructive research method was used. When creating the model, however, also the theoretic-conceptual method was employed. This was done in a manner in which information was generalised from different research cases as well as from the empirical material.

NON-VERBAL COMMUNICATION

Human communication can roughly be divided into verbal communication and non-verbal communication. Verbal communication includes all the verbal aspects of communication, such as words and phrases. NVC, on the other hand, includes aspects such as gestures, movements of the head and body, posture, facial expressions, direction of gaze, proximity and spatial behaviour, bodily contact, orientation, tone and pitch of voice, clothing, and adornment of the body [2]. NVC is involved in most human contact. It may reveal the true nature of emotions, provide hints on personality and work as a channel to send and receive information. NVC emerges in a variety of ways, some of which may not be even consciously thought of [2].

Figure 1 describes the satellite model of the different forms of NVC elements. This model was originally constructed to analyse the elements of NVC in avatars [14]. Classifications of several authors in the social sciences and communication literature have been used in the construction of the model. The aim has been to get as exhaustive a set of NVC elements as possible.
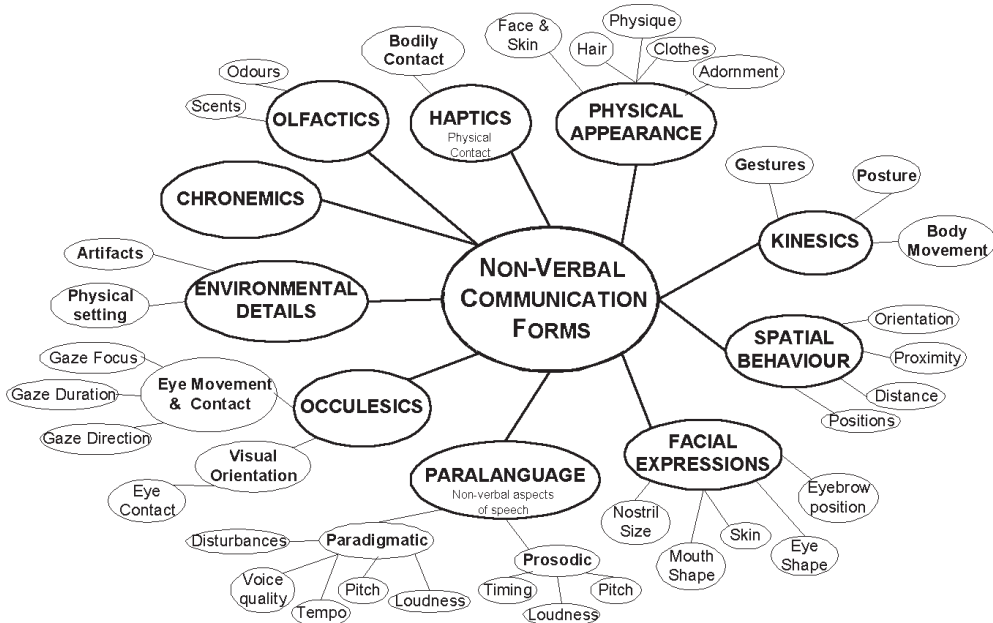
Figure 1: Different elements (forms) of non-verbal communication [14].

The satellite model illustrates the magnitude of different elements in NVC. As previously mentioned, only physical appearance, kinesics and facial expressions have been closely studied in this research. Therefore, only they are shortly described here.

Physical appearance is concerned with the forms of decoration, such as clothes and other adornment, that are entirely under the control of the wearer. It also concerns aspects partly controlled by the person in question, such as physique, hair and skin. [2] Many of these elements provide information on the personality, status, group membership and interpersonal attitude of the sender ([2]; [9]).

Kinesics includes all bodily movement except physical contact. It includes gestures, head nods, posture and movements of other parts of the body [2]. Gestures are different kinds of movements of the limbs, such as, nodding of the head or shaking of the

fist. Posture is associated with an activity that is being pursued [2]. It is the state of the body in action, such as watching something intently, being puzzled, or leaning against a wall.

Facial expressions are a very expressive element of NVC. Argyle [2] claims that it is the most important area of non-verbal signalling because of the magnitude of the information transmitted. Facial expressions may be seen to be determined from the position of the eyebrows, the shape of the eyes and the mouth and from the size of the nostril [2].

NVC AND AVATARS

Early versions of avatars have been rather rigid and lacking in emotion [19]. The use of NVC elements is a solution that has been introduced both to create avatars more alive and to support the natural communication between the users. Allbeck & Badler [1] argue that, when actions and communications are the triggers to understand avatars, they should be implemented in a human-like manner.

Human NVC has been studied in the social sciences' field of Psychology and Communication. Researchers such as Argyle [2], Burgoon and Ruffner [6] and Fiske [9] have established the base of the different NVC elements. Several theories have been postulated to describe the different areas of NVC and to establish an understanding of non-verbal behaviour ([2]; [6]).

One way to support natural-looking NVC has been developed in the field of traditional animation. Animators have studied motion and developed animation to its present state [11]. The gestures, postures and facial expressions of contemporary animated characters are very natural, and the animated characters display emotions and movements that seem realistic. The techniques that were developed by the animators have brought the characters to life. The animated characters have, thus, been given unique personalities, and they have given the audience the feeling of being alive ([11]; [15]). Traditional animation is based on eleven fundamentals that were not tied to a particular medium and could, therefore, also be used in 3D computer animation [11].

Avatars have also been studied in different fields. The area of computer graphics and interactive techniques has studied the different aspects of avatars. Research has been conducted, for example, on the simulation of virtual humans. One of the goals has been the creation of virtual humans who look, move and behave as similarly as possible to human beings [13]. Agents, and especially autonomous agents, research has been interested in creating virtual, human-like agents that can communicate with each other and with human participants ([7]; [1]). Collaborative Virtual Environment (CVE) research has also included aspects where avatars have been studied in the context of NVC. The various studies on avatars (embodiments) are related to issues such as

channelling information on the environment and the avatars to the users [4].

In the area of computer game research, and in the related literature, different kinds of design guides have been introduced to explain how games could be designed. These design guides also point out different aspects concerning the design of an avatar ([16]; [17]). The design guides, however, mainly concern aspects such as the avatars' appearance and their characteristics. They do not try to explain how NVC could be designed in the avatars.

As a result of the research conducted in these diverse areas, the NVC of the avatars can be constructed relatively well. The possibilities for the avatar's facial expressions have been well studied and natural expressions can be created. These expressions can be modelled both artificially as well as by generating them from a real human face ([5]; [12]). Kinesics - probably being the most utilised part of NVC in human-like computer game avatars - has accordingly been well studied. The tools and methods to model the natural-looking movement of the avatar's body and different limbs already exist ([10]; [3]). In addition, the physical appearance of avatars has also been studied extensively. All aspects of physical appearance, such as physique, clothing and equipment, can be modelled relatively well. The human body can be modelled with varying levels of precision, and muscles can be attached to it to create natural-looking movement [8].

Although avatars' NVC can be modelled and animated to seem natural and realistic, problems still occur. Virtual environments have some characteristics that complicate the implementation and use of the NVC elements. These are, for example, the size of the avatars and the field of view (FOV) [18]. These characteristics set demands for the implementation of

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NVC elements. For example, gestures conveyed by hands may not be noticed by others as the avatar may be too close to the camera. Or, contradictory facial expressions may not be seen as the avatar may be too far away from the camera. The use of certain solutions may also cause problems. This is the case, for example, when tracking the user's face for facial expressions in real-time. The user's body often resides in a totally different space than the one in which the avatars appear. This may cause the expressions to be affected by other aspects than the stimuli coming from the virtual environment itself [19]. As a result, unwanted or distracting cues may occur. Even though these characteristics may prevent the use of NVC in exactly the same manner as it is used in real life, they do not prevent the use of NVC elements [18].

CONSTRUCTED AVATARS

In order to be able to construct a model, information on avatars' NVC was required. Existing research cases provided a useful source of information, but a more practical and empirical viewpoint was also desired. For this reason, different avatars were constructed. The avatars were constructed for two environments, both of which offered players a game setting. In both of the games, players also had the possibility to participate in the action outside of the designed game. The first game environment was called **Tuppi3D** and the second was named **Virtual Live Action Role-Play (V-LARP)**. Figure 2 illustrates a few examples of the avatars in the game settings.

The avatars were constructed with the intention to implement as many NVC elements as possible, in order to establish if they would influence the game and the communication between the players. Design and implementation of different NVC elements were conducted using the cyclic development technique. After adding an element to an avatar, it was tested in

the game environment. Depending on the results of the test, it was then either accepted, changed or removed. This was done in order to obtain evaluated information for the construction of the final model. Most of the emphasis was on implementing different ways to support the elements of kinesics, facial expressions and physical appearance. However, instances of other elements were also present.

Avatars were used both to provide information for the construction of the model presented in this paper and as a means to evaluate the model. Varying sets of elements were implemented to the different avatars, in order to differentiate them from each other. In order to obtain information on how the NVC elements work, avatars were tested in the game setting. Small user tests were conducted to find out whether NVC elements were used during the game play. In addition to this, more detailed information was obtained from thorough video analyses. The cyclic development technique, the user tests and the

Figure 2: Facial expressions: laughing, blushing, and lifting an eyebrow and some of the kinesics implemented on avatars.

video analyses provided a good base for information gathering and evaluation of the model.

THREE-LAYERED DESIGN MODEL

The constructed avatars and the studied research cases gave reason to believe that by taking certain issues into consideration, more communicative avatars could be constructed. It was noticed that adding different elements of NVC to a game environment resulted in players having increased opportunities of conveying and receiving messages. Another point that quickly became clear was that by varying these elements, even richer and more subtle messages could be sent and received. This is the primary reason why a model to guide the design of avatars NVC was constructed. Figure 3 illustrates the model, which can be used to support the design of more communicative computer game avatars. The model consists of three layers, which correspond to elements of NVC, varying the elements, and personalisation. The design process begins at the bottom layer of the upside-down pyramid from where it proceeds in the upward direction. The issues concerning the design process and the meaning of the layers are discussed in more detail in the following sections.
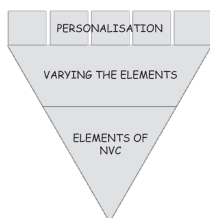

Figure 3: Three-layered design model

Elements of Non-Verbal Communication

The elements of NVC form the first layer of the model. The elements of NVC refer to the different elements of NVC, such as waving a hand or smiling.

On this first level of the model, different elements of NVC are chosen. This means that the designer has to decide what kind of basic requirements the game and the players state for the avatars' NVC. When compared with the satellite model, this means that the different elements are first chosen from the highest level and then from the deeper levels of the satellite model. Figure 4 illustrates the three-layered model and its relationship to the satellite model.
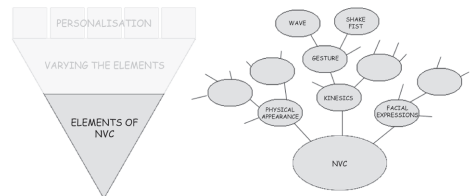

Figure 4: Elements of non-verbal communication in the created model and in the satellite model

To provide a clearer picture of what the first layer means, a hypothetical situation is described. When avatar designers are starting their job on the avatars' NVC, they would first need to examine the different NVC element groups, such as physical appearance, kinesics, and facial expressions. These groups can be used as guidelines to aid in deciding which elements could be used. Designers should give a lot of thought to this level, as it builds the avatars' basic set of NVC elements. The design can be started from the general level, from which it can proceed to the more detailed levels. Designers could begin the process by brainstorming as to which kind of kinesics would support the avatars' NVC in this particular game. In other words, they could concentrate on the kinds of movements and gestures players need to see and control. They should, for example, consider whether having the possibility to wave a hand, crouch or stare would enable positive communication results between the players.

All the three visual NVC elements can be first divided into sub-elements and then into the different elements of these sub-elements. The sub-elements of kinesics are, for example, waving, pointing or shaking a fist. Accordingly, the sub-elements of facial expressions are, for example, smiling or raising an eyebrow. Finally, the sub-elements of physical appearance would be the shape of the body or the type of clothing used by an avatar. With each element, one has to take into consideration whether the element in question could support the communication between the players and whether it is essential for the game.

Varying the Elements

The second layer of the created model is built by varying the elements. In other words, this means the different ways that can be used to express the elements chosen in the first layer. At this stage, the different parameters that can shape the element should be considered. An example of this could be speed and trajectory of the hand to obtain different ways to use the "wave" element. Compared with the satellite model, this means that the instances of each chosen element are multiplied. Figure 5 illustrates the second layer of the constructed model and how it affects the elements chosen from the satellite model.
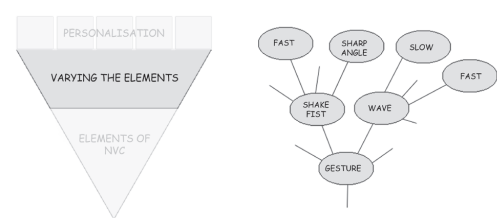

Figure 5: Varying the elements in the created model and its equivalent in the satellite model.

To illustrate the variation of the NVC element, the hypothetical situation started in the last section is now continued. When the animator has selected the NVC element to be used in the avatars, the NVC element needs to be varied in order to create natural-looking actions among the avatars. Different variations can be considered on the basis of the different parameters that alter the instance of an element. These parameters can, for example, be the speed of movement, the trajectory of movement, or the angle between various body parts. These parameters need to be recognised and then modified. For example, if the 'wave' element is chosen, the next stage is to consider the different kinds of 'waves' that can be produced by altering the different parameters such as the speed and trajectory of the arm and hand. Occasionally it may also be beneficial to think in terms of emotional movements. A wave of the hand could be varied to be an angry wave, a happy wave and so on. However, in the end, this variation results in changes in the parameters that shape the movement of the hand, such as speed and trajectories. Another example can be illustrated using facial expressions: if an element is a smile, the mouth could then be varied to result in different nuances, such as a happy smile or a mysterious smile. Also, when considering the physical appearance, aspects such as choice of different kinds of clothing can be considered, or it may simply be the case of creating avatars with different-shaped bodies. Finally, when all the elements have been varied, the animator will have a versatile set of elements that can be implemented into the avatars.

Personalisation

Personalisation forms the third layer of the created model. Personalisation means that avatars have a unique way of communicating using the visual aspects of NVC. When compared with the satellite model, this means that, after varying an element, a certain number of variations could be chosen for

use with an avatar. For example, when it is possible to wave a hand in ten different ways, some of these ways could be implemented to Avatar A and some to Avatar B. Different avatars could have partly the same elements but not exactly the same ones. This could be used to ensure that the communication between the players is natural. Figure 6 describes the third layer of the created model and how it can be seen alongside the satellite model.
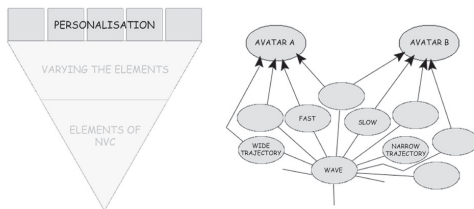

Figure 6: Personalisation in the created model and its equivalent in the satellite model.

An example of personalisation is provided to complete the hypothetical situation. After the animator has obtained a versatile set of elements to be used in the avatars, it is time to implement them. On this layer in the model, the animator has to decide the kind of elements to be put together. The created set of elements works as a library of expressions and movements from which natural and communicative avatars should be constructed. Different instances of certain elements need to be implemented to different avatars. The basic rule for personalisation is to create groups of instances in a manner in which separate groups are not too similar to each other. It should also be remembered that instances in one group create the visual outlook and personality of one avatar's NVC. Therefore, the instances should be designed in a manner in which the player can use them naturally and intuitively for communication with other players.

Evaluation of the Model

The created model has evolved based on the constructions and the NVC theories. The avatar constructions were designed for game environments, with the cyclic developmental process of the NVC elements. Video analyses and small-scale user tests were used to gather the data from constructions. The created constructions illustrated the existence of the NVC elements. The constructed avatars had either the same amount or a higher amount of visual aspects of NVC in real-time as most of the cut scenes presented in computer games. The first two layers of the model have a solid base in both the literature as well as in the results of the constructions. It has been verified that the first two layers do, in fact, result in richer and more natural communication forms, even with a low level of support.

The third layer, which emphasises the personalisation of the NVC elements, can also be justified from the literature as well as from the results of the constructions, as it was possible to show that it did, in fact, result in creating the avatar to be more distinguishable and recognisable. It also prevents exactly similar actions from appearing simultaneously in different avatars. However, some further research is still needed to determine to what extent the different elements should be personalised for the avatars. The personalisation of the avatars' NVC elements was, however, found to be important in creating consistent and distinguishable avatars.

When considering how the model presented fits into the actual design process, a few points are need to be scrutinised. The created model does not show the designer how to implement the work. It does not suggest using certain solutions for certain kinds of problems. This aspect may be considered as a weakness of the model. The nature of the model is more general. It attempts to provide the designer with the

tools that guide the process along a certain path. The model indicates the issues that the designer should consider. During the research, it was noticed that the approach presented in the model is capable of pointing out aspects to be consider when designing support for the avatars' NVC. Therefore, it can be said that the constructed model can be applied to the design of more communicative multi-player game avatars.

DISCUSSION

The presented model offers a tool for designing NVC for avatars. Few aspects about the model and the design process should, however, be considered. The NVC model is based on the non-verbal behaviour of real human beings, which takes things, such as the body and the sense of touch, for granted. Virtual environments, on the other hand, have their own special features and limitations. The responsibility of taking these into consideration is left to the designer. The nature of the game also has a crucial part to play. The question on what should be implemented is also left to the designer to decide. It should be noted that all multi-player games are not built around the need for communication. In some games, it may be sufficient to be able to see the avatar of another person. Some games, in contrast, could benefit from the possibility to communicate with the full repertoire of NVC elements.

When comparing the constructed avatars to avatars in computer games, it must be noted that communication between players in networked multi-player games is often not supported to the extent that it could be. Messages, in some instances, can be sent and received, but only a few elements of NVC are usually supported. Most currently available new games have begun to have more elements of NVC implemented into them. Elements such as changing of clothes, transformation of the body and facial expressions have been appearing increasingly. However, NVC elements are often used mainly for decorative purposes. Avatars may gesture and convey facial expressions but often the player has only little control over them. When using the model it should be remembered that NVC should be designed not only to be visible but also to be usable by the players. In this way, the communication possibilities between the players can be enriched and the NVC of the avatars supported.

CONCLUSIONS

This research project introduced a three-layer model to construct visual aspects of NVC for avatars in multi-player computer games. Using the model in the design process of avatars can result in players having an enriched communication possibility when interacting amongst themselves. Players could have more opportunities to express their desires, and it would also permit communication of subtler and more versatile messages. The use of the model can also result in making the avatars more distinguishable, recognisable and natural in the use of NVC.

The created model was used to support the visual aspects of NVC and, therefore, does not take all NVC elements presented in the satellite model into consideration. Some similarities may be found in the other elements used in this model but the model was not tested on those elements. The satellite model is also not used to consider all the characteristics of virtual bodies but is geared mainly for human-based NVC. The satellite model can, however, be used to support human-like NVC, which is of great use to support the weak areas of communication in computer game environments.

The results of this research are significant for designers of avatars for multi-player computer games, as they illustrate the possibilities of the visual aspects of NVC in improving avatars. For the same reason, designers of different types of virtual environments can also benefit from the results obtained.

Further research is, however, required to determine how the model fits in with the design process of avatars. The model should also be tested in the design process to find out whether its layers are valid and utilisable. The third layer of the model was found to be important in making the avatars using NVC elements more distinguishable, but further research is required to determine to what extent the different elements should be personalised in the avatars. The NVC elements characteristic to virtual environments should be studied to find out natural ways of supporting NVC in avatars. The players are not able to control all the different aspects of NVC simultaneously when playing the game and, therefore, research should also be conducted to create methods that would support the players' control and use of the NVC elements.

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III

Reception

• KIDS AND FUN

19. POWER AND CONTROL OF GAMES:
CHILDREN AS THE ACTORS OF GAME CULTURES

Laura Ermi

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ABSTRACT

The primary aim of this paper is to look into the game related practices and significances of games. This perspective is applied to examining the pleasures derived from different games and to analyse the different strategies developed by children and their families to situate and control game playing. Research was conducted among 10–12-year-old children in Finland during spring and summer 2003. Sample of 284 survey questionnaires filled out by children and their parents provides an overview on the subject and the basis for 15 thematic interviews. It is hard to point towards any single element in games as the most powerfully engaging one, but the imaginary worlds provided by games seem to have an important role in offering children possibilities for experiencing things otherwise impossible. In terms of control, there does not seem to be any severe conflicts or serious troubles currently surrounding games in homes.

KEYWORDS

Children, digital games, game cultures, game playing, attractiveness, holding power, control

INTRODUCTION: RESEARCHING POWER AND CONTROL OF GAMES

The often-discussed "stereotypical picture of the lonely boy playing aggressive computer games alone in his room" [8] is too narrow when faced with the realities of today's game cultures. While the existence of adult game players and the cultural status of games in general, are gradually becoming recognized, the issue of children's relationship to digital games is far from clear and resolved.

There is a long tradition of children-focused game research but most of that is coming from the media effects research tradition (see, e.g. [3]). There continues to be plenty of debate, with mostly humanistic cultural studies on the other side, and clinical psychologists or concerned educators on the other side, and the oppositions tend to become aggravated. Rather than continuing this debate, we suggest an alternative approach, where children's game playing is regarded as complex and multidimensional as any human activity. Instead of presenting generalized claims where expressions like "games are" or "games influence" abound, we look at particular games, specific individuals and groups of players,

and try to understand their relationships. It is our belief that by taking such a holistic approach, we will be able to produce a more diverse and multidimensional picture of games and their significance.

The two key concepts that we use to sort out the complexities of children's relation to games are power and control. Games are reported to have remarkable holding power in terms of their attractiveness: discourse of addiction surrounds game playing in public discussions. Many statistics show that people of many ages enjoy games, often many times a week, in sessions that can go on for hours (e.g. [4, 7, 10]). But games are not always fun; often games are immensely hard to master and create lots of frustrations in the learning process. Yet, games maintain their high popularity. Clearly, there are some reasons that help to explain this popularity; rather than stipulating the existence of a single, overall cause, when starting our study we took an open attitude: that there are probably several, and for different people in different life situations dissimilar reasons for their attraction to digital games. We also suspected that there might be some individuals or groups that would have problems that are games-related or that surface in this context. Therefore, our two terms are open-ended; 'power' of games signifies all the various reasons why people feel attracted to games, while 'control' of games is used to designate all those practices, rules or norms that people utilize while managing the power of games as a non-disruptive element in their lives.

Some researchers have begun to pay attention to the ways in which games can further the learning of hand-eye coordination, object manipulation, mental representation, memory and other cognitive skills (e.g. [5], cf. also [2]). While interesting side effects, children are hardly drawn to videogames in order to develop their manipulation skills. They do what feels fun or exiting to them. One issue that is not sufficiently dealt with in the discussion surrounding digital games is their status as fantasy. A work of fiction relates to imaginative processes and capacity to separate between make-believe and reality that develop at quite an early age [9]. Most games also display their fictional distance from the real lives of their players openly: they provide the players opportunities to enact and share a fantasy of something that is interesting and tempting, particularly because it is dangerous, impossible or forbidden in the real world. Fairy-tales' sometimes aggressive fantasies have been interpreted to play an important role in individual's development and inner processes [1] and even if games cannot be directly equated with fairy tales because the narrative aspects in most games are secondary to their gameplay, players are as sense-making beings never capable of escaping some symbolic or semiotic processes being activated. The view where power of games is related to their capacity to imaginatively transport player to another world where the real world restrictions do not apply, is named here as **freedom-by-imagination thesis** of games' attractiveness.

Some of the most popular games of all times, like *Doom, Counter-Strike* or *Grant Theft Auto III* are very violent in their character. Gerard Jones [6] has argued for a view on children's relation to digital games that could be named *empowerment thesis*. According to this approach, even the most violent games and distasteful subject matter may have some functions that relate to their power. Even if not backed up by large-scale psychological studies, Jones presents compelling individual stories on how games may help "a timid adolescent tap into her own bottled-up emotionality and discover a feeling of personal power", or how the 'dark side' of popular culture in general may, when shared among like-minded, alleviate the angst.

Games as well as any other media products probably derive much of their powers from other areas: having many social and emotional uses as social capital, in the processes of identity construction, etc. Games have become integrated to the life of present-day young adults; avid gamers since childhood, they use games to spend time with their friends, get some diversion in a boring day, or just for fun and pleasure [7].

THE RESEARCH METHODOLOGY

We combine both qualitative and quantitative approaches in gathering and analysing the data. Sample of 284 survey questionnaires filled out by both the children and their parents provided an overview on the subject and the basis for 15 thematic interviews, where the child and the parent were interviewed separately. The interviews, supplemented with some activation methods such as illustrations, serve as the main research method. In the survey we asked the parents basic facts about the family and questions about digital games' role in the family life and parents attitudes and opinions towards them. For the children we had a shorter survey form to fill out and the questions focused mainly on the playing of the games. We asked children how often and with whom they play, what are their favourite games and how do they perceive some issues related to controlling of the playing. Both questionnaires ended up with an invitation to participate in a thematic interview. Interview themes dealt with favourite games of the child, playing alone and with others, positive and negative consequences of playing, family's rules and practices in terms of playing and violence in games. In this paper we present preliminary results on the issues of power and control from the viewpoint of the children, thus leaving other games-related topics and the interviews of the parents still aside.

Table: Children's age and gender in the survey and interview samples.

		10 years	11 years	12 years	Total
Survey	Girls	55	68	32	**155**
	Boys	34	73	2	**129**
	Total	**89**	**141**	**54**	**284**

Interview	Girls	3	3	2	**8**
	Boys	3	4	1	**8**
	Total	**6**	**7**	**3**	**16**

Of the children participating in the survey (n = 284) there were 55% girls and 45% boys. About a half of the children were 11 years old and the rest either 10 or 12 years of age. (See table above). From the survey sample we chose 15 families to participate in the thematic interviews trying to get different kinds of players and families. In practice, a total of 16 children were involved in the interviews, because in one of the families there were actually two children who had returned the survey questionnaire.

POWER OF GAMES

The power of games seems to be deriving from several different kinds of sources. In addition to unveiling some of the great real-life diversity in children's lives with games, this research aims to point towards some joint characteristics.

Survey Results

Playing digital games seems to be quite a central activity among the children although it is also possible that more of those who do not play digital games at all did not answer the questionnaire. Approximately 98% of the children taking part to the survey played digital games at least sometimes and most of them once a week or more often (see figure 1). All the children who did not play digital games at all, were girls, and there were more boys who played daily or

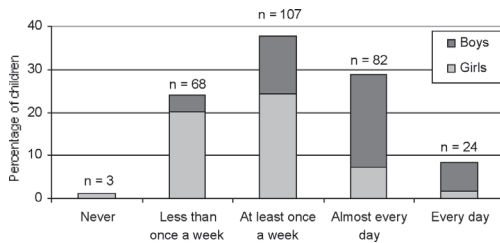almost daily than girls. Girls played usually once a week or less often.

Figure 1: The frequency of how often children play digital games.

Most of the children taking part in the survey were able to mention the names or genres at least some digital games they especially like. According to the results, the most popular among the children were action and adventure games (see figure 2), content-wise there was a vast range from *Harry Potter* to *Grand Theft Auto*.
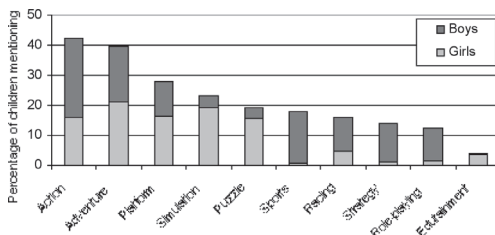

Figure 2: The popularity of digital game genres among the children.

Adventure is a special category in a sense that there seemed to be no pure adventure games. Rather adventure was a typical crossover element in games, as in the popular *Kingdom Hearts*, which includes some role-playing features and real-time action. Different kinds of *Mario* games were the most popular among platform games and also *Crash Bandicoot* and

Spyro were often mentioned. By far most popular individual game title was *The Sims*, also explaining the overall popularity of simulations genre. Sports and strategy games were mostly played by boys who stated their favourite games to be e.g. *Tony Hawk's Pro Skater*, *FIFA* and *NHL* games in the sports game genre or *Age of Empires* in the strategy games. Boys also liked role-playing games such as *Final Fantasy* and *Diablo*, and different kinds of racing games. In addition to simulations like *The Sims*, girls played puzzle games and edutainment games more often than boys.

Thematic Interviews

Children stated that playing digital games is often an easy and quick solution if there is nothing else to do. It can also serve as social lubricant providing topics for daily discussions and reasons for inviting friends over. But besides that several other sources of pleasure could be found by analysing the interviews. Many children stated that their interest in digital games varies. Often it is the latest game that holds attention for some time and playing it can be very intensive for a while. We named this particular aspect as the power of **novelty and spectacle**: successful and original games often offer something out of the ordinary, previously unseen and not yet experienced.

> It also varies quite a lot, the flair of a new cool game is soon lost, and then there is already a new game at some friend, and then you will also soon buy another new game to yourself, and then that new one is your favourite game, so there are quite a lot of them [favourite games]. (Boy, 11 years.)

> I cannot really say... it is probably because it [*The Sims*] is somehow different from all the other games, as I haven't seen any other game quite like it before. (Girl, 12 years.)

In accordance with the popularity of action games that emerged from the survey results, also interviewed children discussed the pleasures of fighting. There were many different ways they worded this specific source of games' power, but it can be named **excitement of combat** in general terms. It is noteworthy that not all combat is equally fascinating: playing against a computer opponent is not as fun as confronting a friend in a multiplayer match. Few children were interested in violence per se, but rather felt that violence made the game experience more exiting. Children who played violent games stated that excessive, mindless violence against people is not what they want to have in games, but they rather face various kinds of monsters and non-human characters. The plot of the game also has an important role here and children want to see the violence as a part of the struggle and adventure of the game, not as a separate element.

If, for example a friend of mine says that I can surely win you, then it is fun when you play against her, and you might even beat her. (Girl, 11 years.)

Those games where there is too much shooting and no adventure at all, those are quite boring. And even if in the *War of the Monsters* game there is no adventure in the multiplayer game, it is basically like boxing and that is also fun. But that kind of shoddy shooting of innocent civilians, that I think is quite stupid. (Boy, 11 years.)

It is of course more exciting to play a shooting game than *Sophie's World* [a game based on a philosophical novel] as in that *Sophie's World* there is no shooting or anything like that, it is only about solving problems. (Girl, 11 years.)

The children often discussed **game characters** as a central element of the games they played. Fierce characters like monsters could add to the excitement of the gameplay but also other kind of characters, funny and cute for example, could be seen as fascinating. Children paid attention especially to the appearance and abilities of the characters when choosing their favourites. Also the individualization of them was mentioned by some of the children to be important: they liked to give names for their characters themselves or to be able to develop them during game playing.

Especially those wide worlds, those that have one huge world where you can move around and where the character can develop on the way. So that even if you have played through the game already, even then you could still make it [the character] better. And a really large and long-lasting game would be good. (Boy, 12 years.)

Adventure seems to be a key element in many of children's favourite games and related to several interconnected factors that children identified and discussed. The power of **persistence** seems to be central: it is fascinating to get immersed into a series of game sessions and experience continuity every time one plays the game. Other factors were the pleasures derived from **exploration** and **advancement**: these kinds of games are strong in rewarding players who put a sustained effort in researching the game environments. Finding new places and advancing in the game feels rewarding and offers experiences of achievement and game flow. It is essential that the level of difficulty is adequate: games that are too easy as well as games that are too difficult soon gather dust on a shelf. Children analyzed quite carefully the various ways in which the level of challenge was balanced in games and how it changed and increased in good games. They also defined playing

games as more active and "stressful" pastime than watching movies for example. This seems to be a somewhat two-fold issue. On the other hand children felt that one of the main rewards in games is the possibility to do and decide things by oneself, but on the other they were especially irritated by getting stuck and being unable to advance despite of repeated efforts.

> I play them [rally games] with the hardest difficulty setting but they are still too easy. There is no opposition at all. Except that formula game, for example, that is a bit too difficult. (Boy, 10 years.)

> Every part [of a game] is fun in the long run, except if it is a really hard part, but even then there is certain fun in getting through that part in the end; what is really drab is when you get stuck. (Boy, 11 years.)

Many games focus also on another major factor, the particular pleasures of achievement related to **unravelling of puzzles** or overcoming mental challenges. Children liked solving puzzles in games even though the basic puzzle games were not very popular. Puzzles embedded in story and adventure were seen as much more interesting than puzzles outside of that kind of context.

Simulation games and many strategy games derive their powers from yet another source: the pleasures of **building, creating and controlling**. Children liked the possibility of contributing to the creation of the game world. For some, the most engaging aspect of *The Sims,* for example, was building houses and for some the possibility to control the people living in that house. On the whole, children enjoyed managing and examining the houses, armies and other things they had created themselves, even though they also

felt that there had to be a continuous flow of interesting tasks in the game.

> Well that is at least, when you can see it, when you have done so much [units] and then you can put them into columns or march towards the enemy, then that is cool, or when you have lots of some [unit] type and the enemy attacks, then there are lots of those same kind of soldiers swarming everywhere, then that is cool, too. (Boy, 11 years.)

Another powerful element related to at least certain games was **humour**. For example funny characters like a fat policeman on a skateboard or jokes made by the characters of action games can add to the fun of the game. The fun can be of the traditional comic kind, but some children also emphasised that it is fun to see and do things that are impossible in the real world. Games humour is a large research field in itself.

> And then, there has to be something, even if it is some serious game, even then it has to have something funny once in a while. (Girl, 11 years.)

For some players, the theme of the game might be as or even more important than other qualities of the gameplay. Particularly in sports games the **relation to one's hobby or interest** seemed to be one of the main reasons for games being motivating and attention-grabbing. For example, games of ice hockey, golf, skate boarding and horse grooming were often mentioned to be liked because they were related to the child's own interests.

Children considered the **audiovisual quality** of the games to be significant. Lack of audiovisual or technical sophistication could essentially weaken the gameplay experience. "Realistic" graphics were important for children in a particular sense of mak-

ing the game world look "real" enough for them to immerse into. Camera angles were associated with the playability of the game but the style of the game was also seen as important. For some children colourful fairytale worlds was what they wanted to see, and for some it was just the opposite: that kind of graphical style felt too childish for them.

On the whole, the children considered the **imaginary world** to be central in the games. They preferred extensive worlds where they were free to move around, find new places, perhaps collect something and face new challenges. They stated that the more there are possibilities and things to do, the better. It could be fun just to explore the world but also having meaningful and diverse tasks were considered important. One aspect of the imaginary worlds was that children could do things there that are not possible or even acceptable in everyday life, for example beating up a policeman or two children living in a big house without any adults.

> That is why I actually like playing, that it creates, or that game makers can create a kind of real world, where you can do stuff you cannot do in the real life. (Boy, 11 years.)

Finally, it was of course also true that the **winning** of the game was important for many. Besides the gradual advancement discussed earlier, the end of the game and especially the final closure were seen as significant. Many of the children's game-related memories dealt with this kind of situations, like beating up the last monster or receiving a prize for their achievements. Uncertainty of the final outcome was quite an important factor in the overall suspense of the gameplay and also motivated children to continue the game to see how it would turn out.

So, they have got exciting parts, like can I win it and like that, or is that fellow [a character] going to die or something. (Girl, 11 years.)

When I won the last contest in that street rally then there was this guy who started talking that now you are a world champion and like that. (Boy, 11 years.)

CONTROL OF GAMES

The control of children's game playing is a multifaceted issue, where there are several actors: the children themselves, their parents, siblings, friends as well as cultural norms and organisations that set the age ratings for games. In this paper we discuss control only from the viewpoint of the children, even if comparisons with the parents' views would also be interesting.

Survey Results

According to children, parents more often control the time used for game playing than the content of the games: 48% of the children stated that their parents decide how much they can play, whereas 29% stated that parents decide what kind of games they can play. Children's favourite games were mostly games that were rated as suitable for all ages and also some of those rated suitable for their own age group (see figure 3).

Figure 3: Percentages of children mentioning age-rated games among their favourites, classified according to the highest mentioned age rating.
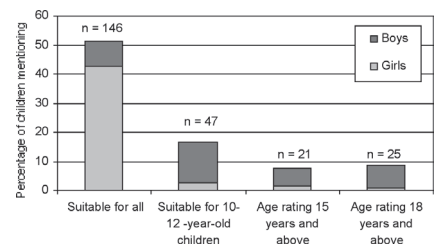
Overall 16% of children mentioned among their favourite games some game that has an age rating of 15 or 18 years. By far the most popular game in the "suitable for over 18-year-olds" category was *Grand Theft Auto* and most popular "over 15-year-old" rated games were *Metal Gear Solid, Diablo* and *Smackdown*. Those games where mentioned among favourites mostly by boys whereas only few girls mentioned them as their favourites. It did not make a difference if the children had a computer or a game console in their own room or not, although boys did have one more often than girls.

However, according to our survey results it seems that controlling the game playing is not a major issue in families. A majority of children was quite happy with the rules they have; nevertheless, there was also a group (11%) that felt that they would like to play more than they were allowed.

Thematic Interviews

Families differentiated greatly in terms of their game cultures. For some children there were no time limits at all and for some the limits were very strict. When children were free to decide how much they play, they usually did not play more than two hours in one session. They stated that they would not want to play more than that, except perhaps occasionally. The total amount of time spent with games varied a lot because some children were allowed to play digital games only once a week and for some it was possible every day. In some cases children had to "earn" the playing time by doing housework or by engaging in outdoor activities.

When there were several children in a family, an interesting issue emerged: how to interpret the situation when the child is watching someone else playing? Different families had adopted divergent attitudes towards whether it was also "playing" or not,

which in turn had consequences to the social dimensions of game playing. If the time spent on watching playing was reduced from the children's own playing time, they were likely to play alone and thus the social aspects of playing were reduced. On the other hand, if there are several children in a family and besides their own playing time they also watch when their siblings play, it may result in several hours spent daily engaged with digital games, in a manner or another.

It was common that certain obligations like homework and family dinner were primary compared to the time spent on playing, and that playing was not allowed late at night. From the children's point-of-view the rules designed to control the game playing could be quite complicated. For example if the parents had been separated, the rules for games could be very different in child's two homes. More often, rules were different for some friends of the children and the time limitations did not extend outside their own home. Children might also go to their friend's home to play games that were forbidden at their own homes. Although the children usually quite carefully followed given time limits, they played certain games covertly without their parents' permission and knowledge.

> Always when someone opened the door I pressed Esc, so that game paused, and jumped up to see who it was. (Boy, 10 years.)

According to the interviewed children, their parents do not involve themselves virtually at all with the games the children play and families usually do not discuss them together. Often children stated that their parents do not know much about the games and do not even want to. So limitations the parents set on the content of the games are often based on their recommended age ratings. For the interviewed

10 to 12 year old children it was typical that games rated suitable for 15-year-olds were permitted whereas games rated suitable for 18-year-olds were forbidden or at least considered more carefully.

Children did not always know on what basis their parents restricted the amount or the content of the game playing. The age ratings of the games caused even more confusion among the children. They felt that in some cases the rating is set too low and in many cases too high compared to the content of the game. Children had two kinds of ideas about what the basis for the rating could be: either it is about the violence or the difficulty of the game. When they felt the rating was based on the difficulty level they often protested that on that basis that they should be well capable of playing difficult, and in that sense "mature" games. On the other hand, when they thought the rating was based on the violence level of the game, they usually agreed with it in principle, unless they had seen the game and felt that there was not actually that much violence. We asked the children also about what kinds of games they felt would be unsuitable for them and they typically mentioned games including various kinds of horror elements such as vampires or zombies. Children did not want to see mindless and boundless violence and many of them particularly did not want to see blood, or humanlike characters being killed. However, what might seem violence for an outside observer, was often seen by children just removing obstacles, not real killing, for example. Similarly, dying in games was typically seen as "losing a life", which can be seen as pointing towards the distinction children have made between make-believe and reality. Nevertheless, also the games-effects discourse surfaced sometimes in children's own thinking as evidenced in the interviews, and they said that it could be possible for someone, usually someone younger, to be negatively influenced by the violent games.

It is bad to a child if there are lots of games where blood just splatters and then there are lots of ghost and mutant games, and like, I don't like those at all. I think those are bad games. Most kids play them and that is not good for them at all. (Girl, 11 years.)

The children often talked about their younger siblings or about themselves many years ago, when asked about the control of game playing. According to them, they used to have some games that were scary but that are not so for them anymore. They told also that their younger siblings often protest against the rules, play too much or are in danger to become addicted to games. Even if the limitations set by the parents were generally accepted by the children, they often felt that they were also mature enough to handle their own game playing in terms of amount and content.

But some of those younger players or those who have just started playing, they can also play longer even if mom asks to come and eat, they just continue playing, and someone can get angry and that is no fun any more. That is a kind of addiction, but generally those who are older than ten years, they do not get addicted any more. (Boy, 12 years.)

It's lucky that I play only that kind of games that are not bad for me, so that I avoid those games, which are not good for me. (Girl, 11 years.)

Perhaps a little surprisingly, children were quite happy about the rules their families had on game playing even if the rules seemed quite strict. Some of them even mentioned that it is good to have rules to help them control the playing, especially the amount of time spent on it. The rules set on the content of the games caused a bit more resistance, possibly

because children were not always able to see any basis for these restrictions.

> I just wonder as my mom won't let me have such games which my friends always have, those are such combat games, so my mom won't let me buy those even if I have a PlayStation. (Boy, 11 years.)

CHILDREN AS THE ACTORS OF GAME CULTURES

To summarize, there were several reasons for game playing for our child informants, and it is hard to point towards any single element in games as the most important one. One repeated explanation given by children for why they play games was the need for fun and diversion. Playing was perceived as fundamentally gratifying activity in itself. The digital games did not stand out or were not differentiated in any essential sense from the other toys that a child might be spending his or her time with. Majority of elements that were identified as relating to the power of games were characteristics of good game design or gameplay, e.g. the suitable challenge level, interesting in-game tasks and persistence of an extensive game world. The pleasures derived from learning, advancing, mastering and manipulating contemporary digital games seem to be inherent to our nature as *homo ludens*, playing humans. The rich audiovisuality, simulations and controls of contemporary digital entertainment just bring this fundamental dialectic of challenges and rewards to a new era.

More in-depth interpretations that would give reasons why game playing is pleasurable would demand extended analyses that go beyond the scope of this paper. However, some of our findings seem to give at least indirect support to the empowerment and the freedom-by-imagination theses. It seems that in the context of digital games it was not so much about identifying with the game characters and thus vicariously experiencing their powers, but rather the immersion into the imaginary game worlds that offered the possibilities to be free from real life restrictions. So at least part of the games' power can be related to players' empowerment or imaginative liberation.

In terms of control, there does not seem to be any severe conflicts or serious troubles currently surrounding games in homes. However, games are indisputably very important for children, while still being mostly not so familiar for their parents, leading to a cultural gap. Negotiation and utilization of games as a shared element of life, where both parents and children would be competent and allowed to contribute, is mostly not yet reality. Nevertheless, the families we examined had devised quite highly evolved schemes on managing and controlling games' powers of attraction. Interestingly, quite many families had similar, one to two-hour maximums for the permitted daily game playing time. This is probably due to the typical socially determined rhythms of family life, rather than to some jointly established framework or discourse of games' control. Some families had also harnessed games' powers of attraction for some "more healthy" or "utilitarian" purposes, including trading time spent doing domestic work or outdoor exercise for game playing time.

This paper does not take sides in media-effects debate per se – our research points out that also children are aware of the debate that is surrounding games, even if they do not perceive any negative effects in their own game playing. Such worries were articulated in terms of other, or smaller children, who perhaps do not have such capabilities of controlling and directing their game playing that these children felt themselves possessed. It seems that our 10 to 12 year old informants are in the process of developing ways to manage their own relation towards different games.

In conclusion, the image of a child in contemporary game culture that emerges from our research is not one of helpless victim. On the contrary, many children seem to be very articulate about their preferences and capable of sharply criticizing games, as well as in valuing their strengths and relishing their entertaining, exciting, or humorous aspects, as well as their various mental or skills-related challenges. The total significance of games for children is related to many different aspects of their lives and children can be perceived to be actively contributing to this life and culture, as well as being immersed in its textures.

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20.DIMENSIONS AND DETERMINANTS OF THE ENJOYMENT OF PLAYING DIGITAL GAMES:
A THREE-LEVEL MODEL

Christoph Klimmt

ABSTRACT

Only a few attempts have been made in communication research and psychology to explain why playing digital games is entertaining. This article offers a theoretical model of the enjoyment of playing digital games and identifies (1) the experience of effectance, (2) the cyclic feelings of suspense and relief, and (3) the fascination of a temporary escape to an alternative reality as key dimensions of video game enjoyment. Moreover, the model denominates the general game characteristics which facilitate these dimensions of the entertainment experience. Finally, an agenda for theory-based, empirical research on interactive entertainment is developed.

KEYWORDS

Digital games, enjoyment, entertainment, play, psychology, communication, theory, model, effectance, suspense, reality

INTRODUCTION

There is a remarkable delay between the advent of modern digital games as a dominating leisure time activity in North America, Europe, and Asia, and the beginning of substantial efforts to investigate digital games and gamers in the social sciences. Some early psychological considerations on video games were published in the early 1980s (e. g., [22]; [21]). Until recently, however, the overall body of research devoted to ditigal games was in no way appropriate, considering the tremendous popularity, commercial success, and intensity of usage of those games. Similarly to the early studies on television, the academic interest in digital games and their users was (and partially is still) tied to potential negative effects of frequent exposure: Most publications on video game research address the impact of playing violent video games on aggressive behavior (see for meta-analyses [1]; [29]). Other aspects, such as possible benign consequences of playing games [7], have been neglected.

This is particularly true for the question of why playing digital games is so enjoyable. The fact that playing video games is fun is obvious to everybody who has observed somebody else playing or has played a computer game by her-/himself. The number of accounts to explain this wide-spread phenomenon is very limited, however.

Beyond the mere scientific interest in the explanation of social reality, answers to the question of video game enjoyment are badly needed from the perspec-

tive of applied research as well. Enjoyment is clearly an important variable that has to be considered when any (negative or positive) effects of playing are to be assessed. Because enjoyment is the reason for players to begin, sustain, and repeat exposure to digital games, it is highly relevant to understand the dimensions and factors of this experience. Otherwise, the efforts to avoid socially undesirable effects and to promote beneficial aspects of digital games, such as the facilitation of learning processes through edu-tainment products [2], cannot succeed.

For these reasons, the present article attempts to advance our understanding of video game enjoyment. As an initial step, the existing ideas and findings on video game enjoyment are reviewed. Subsequently, a conceptual model of the dimensions and determinants of the entertainment experience of playing digital games is proposed. Finally, an agenda for further theory-based, empirical research on video game enjoyment is outlined.

RESEARCH ON THE ENJOYMENT OF DIGITAL GAMES

Most conceptual and empirical work on the fun of playing video games has been conducted by researchers from two different disciplines, namely (1) media psychologists and communication researchers and (2) developmental psychologists concerned with the psychology of play. Their findings will be reported separately.

The Perspective of Media Psychology and Communication Research

Social scientists have begun only recently to devote more attention to phenomena of media entertainment in general [44] and are still debating about the definition and conceptualization of entertainment [5] [34]. Their main perspective on video games is the comparison to 'old' entertainment media like television.

Therefore, the unique capabilities of video games to entertain their users have been assumed to be connected to the games' interactivity [34], because interactivity is the main difference to other audio-visual media products [36].

The opportunity to participate actively in the events depicted by the medium has been linked to feelings of control [10] [19], power, and mastery [8]. Instead of the simple observation of (more or less) interesting events of a movie, for example, video games allow for and ultimately demand active engagement [33]. The close relationship between the mediated events and the players is assumed to increase the emotional effects of exposure. For example, if the hero of an action movie is facing a superior horde of evil monsters, suspense will arise, because the viewers are uncertain about the outcome of the situation and hope that the sympathetic character will survive [43] [32]. In a video game, it is the players themselves who are facing the evil hordes, and their own abilities and actions are required to survive the situation. Emotional responses to the game situation do not refer to an observerd character, but directly to one's own person. Due to this increased ego-involvement, video games are regarded to induce more intense emotional experiences (like suspense), which makes them very enjoyable to use [10] [14].

Schlütz [28] has labeled the idea of enjoying one's own deeds "agency" and has pointed out the connection to Czyksentmihalyi's flow concept. According to Czyksentmihalyi [6], experiences of flow can arise from any activity that is not too easy for the individual (because in this case, it would cause boredom), but not too difficult either (because in this case, it would cause anxiety or frustration). As the difficulty level of most digital games can be managed and fine-tuned (via explicit settings by the players and/or via automatic adaption by the program), digital games are supposed

to have a special capability to induce and prolong feelings of flow. Flow, in turn, may be regarded as kind of entertainment experience, as the individual is completely absorbed by her/his activity [27] [40] [9].

Clearly, the considerations of media psychologists and communication researchers have led to new insights about video game enjoyment. However, their explanations lack completeness, which is partly due to general deficits in the conceptualization of media entertainment [34] and partly due to the fact that computer games should be regarded as a mixture of media products and electronic toys [14]. For this reason, some more ideas on the enjoyment of playing digital games have been published within the field of psychological play research.

The Perspective of Psychological Research on Play

As play is a fundamental mode of human and animal behavior [26], research on the characteristics and functions of play belongs to the traditional domains of psychology. Similarly to media entertainment, the phenomenon of play features many different forms, which makes it difficult to define [31]. Oerter [24] lists three major characteristics of playful actions: (1) intrinsic motivation, that is, the purpose of playful actions is situated within the action itself or is related to the outcome of the action (e. g., to win a competitive game), but not to the (long-term) consequences of the outcome, (2) transformation of reality, which means the acceptance of certain rules and facts that differ from the real world for the duration of the action (e. g., the admission of magic in a fantasy role playing game), and (3) repetition, as most playful actions are performed more than one time (e. g., in soccer leagues). All three aspects of play apply to the use of digital games as well, and play researchers have presented their own ideas on the enjoyment of this activity.

One important factor of the enjoyment of playing digital games is the reciprocity of users' input and the game's response. Computer games establish a chain of events each of which involves the players by enabling them to perform a certain input or action. This action is immediately replied by the system, and a new situation for the players to deal with is created. The cycle of input and output captures the attention and motivation of the players and produces the sensation of enjoyment, as it is entertaining to watch one's own direct impact on the ongoing events. Such experiences of influence are enjoyable, because in reality, the perception to be a causal agent is often compromised. In many cases, it is difficult to determine how much impact oneself has on a social situation. A digital game, in contrast, delivers fast, clear and nonambiguous feedbacks to the players' input, which allows them to assess their own efficacy very easily. This experience is very pleasurable to most individuals, specifically to children and adolescents, who have to cope with situations of powerlessness and lack of influence more often than adults [24].

Another relevant consideration from psychological play research refers to the alternative reality that games (and most computer games as well) establish. Leaving one's real circumstance of life for the duration of the game and entering the identity of another person is most appealing to many players. Imagine, for example, a child who plays a cowboy game and imagines to possess a weapon to defend justice against evil bandits. For the time of the play situation, the child extends his/her skills and competencies, and the imaginary setting allows for vicarious experiences in domains of life which would never be accessible in reality [23], for example, the experience to be the sheriff of a Wild West town. As computer games can present such alternative realities in 'multi-media' fashion and offer opportunities to participate interactively in their world, such transportations into a transformed

reality should be very 'complete' and convincing to computer game players [17]: Digital games allow for high-fidelity simulations of exotic, dangerous, thrilling and interesting events which can be experienced in a very active way. Such extensions of one's own horizon of experience and knowledge are highly attractive and enjoyable to many people, and are again valued the most by children and adolescents [23].

AN INTEGRATED MODEL OF THE
ENJOYMENT OF PLAYING DIGITAL GAMES

Although the overall amount of research on video game enjoyment is small, several ideas have been posited in the literature. However, they have not been linked to each other within a comprehensive framework, which would establish a more powerful explanatory approach than the mere collection of single ideas. Therefore, a conceptual model is presented that organizes and connects existing considerations within a structure that is derived from the process characteristics of playing digital games. It includes three levels of complexity, which are introduced first. Subsequently, the different dimensions and determinants of the entertainment experience during gameplay are assigned to the levels.

Analyzing the Process of
Playing Digital Games

The localisation of the factors that determine the fun of playing digital games requires a description of the process of playing. Such a description has been proposed by Klimmt [15] [16]. It is organized in three levels (see figure 1).

On a very basic level, the process of playing can be regarded as a chain of single loops of users' input and the computer system's output. For example, the player presses the left mouse button, and the game software responds by visualizing a shot fired by the player's weapon. The next input-output loop might com-

prise a movement of the mouse, which leads to a change in the visual perspective, indicating a change of the position of the player's character. On this basic level, the playing process is divided into virtually uncounted single loops of input and output.

On a more complex level, the playing process is composed of a sequence of interconnected episodes. In each episode, the players are enabled to perform certain actions, for example, to manipulate objects or to assign orders to military units. Most episodes also feature some sort of opposition or conflict, like an enemy attacking the player's character(s) or an earthquake shaking the player's buildings. Such incidents make the players perceive a necessity to act, that is, they have to perform one or some of the possible actions in order to resolve the situation. The action of the players produces a result, for example, the death of the enemy or the evacuation of a collapsing house. The outcome of each episode affects the configuration of the subsequent episode. If the surrounding has been cleaned from enemies, the next episode may include no opposing forces, but allow for the riskless exploration of the environment. An episode is thus characterized by (1) certain possibilities to act, most often (2) a necessity to act, (3) an action performed by the players, and (4) a result that connects the episode to the next. Such episodes can embrace numerous loops of input and output, as the action selected by the player may consist of many single inputs (e. g., mouseclicks).

The highest level of complexity, finally, refers to the whole session of playing. It may include many single episodes and a very high number of input-output loops. On this level, the players most often participate in a narration, for example, a Formula 1 season or the plot of a fantasy role playing game. The single episodes melt into a more complex form of general activity, for example, doing a journey, participating in a

tournament, fighting a war, or performing a rescue mission. Narrative interconnections between episodes are relevant on this level, for example, objects that have been collected at an early stage of the session can be valuable during an episode that occurs at the very end of the session.

GENERAL ACTIVITY (MULTIPLE EPISODES)		
EPISODE: Possibilities to act Necessity to act Action	EPISODE: Possibilities to act Necessity to act Action	EPISODE: Possibilities to act Necessity to act Action
Input/Output Input/Output Input/Output	Input/Output Input/Output Input/Output	Input/Output Input/Output Input/Output Input/Output

Figure 1: The structure of the playing process [15] [16].

Based on the proposed three-level structure of the playing process, the model to be introduced will consider the dimensions and determinants of enjoyment of playing digital games with respect to each of these levels.

Interactivity, Direct System Response, and the Experience of Effectance

What might be entertaining in the participation in simple input/output loops like the ones described above? The immediacy of the computers' reaction to the players' input should be considered as an important factor of enjoyment. In most situations, players can easily detect if and how their inputs affected the game world, because the response happens without any delay. A mouse-click causes a certain event, and this event is a non-ambiguous consequence of the players' input, as it is (most often) clear that no other forces could have caused it. Such direct connections between actions and outcomes make the individual perceive her-/himself as a causal agent. White [39] has labelled the experience to have an impact on the environment "effectance" (see also [11]). According to his theory, individuals strive for such experiences of effectance, because they are accompanied by inherent feelings of pleasure. This way, the organism is motivated to engage with the environment, to try things out and manipulate the surrounding. Such behaviors facilitate the acquisition of competence, which is crucial for survival. To perceive oneself as an effective agent, then, is pleasurable and functional at the same time.

The input-output loops of computer game playing processes feature a unique capability to induce experiences of effectance, because of the immediacy of the feedback to the players' inputs, and the amplitude of the responses. In computer games, players may cause major events such as mass destruction, fundamental landscape alteration, or transfers of large amounts of money with just one simple mouseclick. The ratio between the extent of the input and the amplitude of the games' response is especially favorable, as minimum input may cause maximum output. Such a relationship between action and outcome facilitates the experience of effectance.

At a first glance, the concept of effectance appears to be very similar to other notions from psychological action theories, such as self-efficacy [3] or control [20] [19]. However, the notion of effectance as a dimension of enjoyment is tied to the very basic level of the playing process, whereas the other concepts involve more complex circumstances. For instance, the concept of control applies to a social situation with multiple forces which could exercise (some) influence on the situation. Similarly, self-efficacy is bound to the

mastery [3] of a situation. On the selected simple level of observation, in contrast, such complex conditions do not exist. Input-output loops are independent from events of success or mastery, they only allow to attribute certain incidents to the players' actions. Therefore, the concept of effectance is most appropriate to characterize this dimension of enjoyment, which is determined by the immediacy and amplitude of the games' feedback to the players' inputs.

Exploration, Conflict, and Feelings of Suspense and Relief

The intermediate level of complexity features possibilities to act, a necessity to act, the players' attempt to resolve the situation, and the outcome of this action. All of these four elements are related to the enjoyment of playing digital games. First of all, the possibilities to act may arouse the players' interest. Imagine an episode of an action game that does not involve any threat. Players would be free to explore the surrounding, and try out the objects they are carrying or find. Exploratory behavior is linked to the state of curiosity and pleasurable levels of excitation[4]. Children find it very enjoyable to discover the properties and functions of new toys or objects, and many adults feel equally pleased during the occupation with a new object of interest. Since digital games can offer a broad variety of possible actions, and these actions may even vary substantially between different episodes (e. g., depending on the spatial surrounding, available objects, or computed skill level of the players' character), the exploration of action possibilities should induce frequent and/or persistent states of curiosity and the pleasure of discovery.

If a game episode features a necessity to act, however, the opportunity for exploratory behavior is restricted, as the players have to focus on the resolution of the problem or threat. Once the task or danger has been recognised, the players will experience uncertainty about the outcome of the situation. Will they manage to defeat the enemy? Will they be able to solve the puzzle? The gap between the players' hopes for a positive outcome of the situation and the actual setting (e. g., the attacking enemy who may or may not be overcome by the players) causes the feeling of suspense [43], similarly to the condition of viewers of thriller movies who 'bite their nails' until the happy end occurs.

Suspense is actually a kind of negative, uncomfortable experience, as it is linked to anxiety and sorrows about the uncertain outcome of a situation [43], which lead to high levels of negative arousal. However, suspense is evaluated positively by most media consumers, because they anticipate the resolution of the situation they are just worried about. Zillmann's excitation transfer theory [41] [42] explains this phenomenon through a description of what happens to the media consumers' arousal in the case of the happy end. In the moment the audience realizes that the circumstances which caused the suspense have vanished and everything turned out fine, the physiological arousal that has been accumulated during the suspense period does not drop immediately, but sinks very slowly. However, the remaining high level of arousal is now interpreted in light of the new circumstances, namely the happy end. Suddenly, the arousal is linked to very positive cognitions, which results in an euphoric state of strong happiness [42]. This transfer of excitation from a negative to a very positive condition is the mechanism that is underlying the experience of relief or even salvation which can be observed in many media audiences.

It is assumed that video game episodes may activate similar cycles of suspense and relief. The appearance of an enemy or challenge induces suspense, as has been stated above. Players' perform some action in order to cope with the problem. If they deal with the

situation successfully, the arousal is transformed into euphoria. Such cycles of suspense and relief are experienced as very pleasurable by the players. As digital games are capable to repeat such cycles over and over again – there are ever more and more dangerous enemies to fight against – , they are assumed to possess a unique entertainment capability with respect to suspense and relief.

In this context, the strong ego-involvement of the players has to be considered again. It has already been discussed in previous publications on video game enjoyment [34] [10]. The successful resolution of a game episode may lead to more intense feelings of relief, because the players' perceive themselves as originators of the victory. Such mastery experiences [3] increase the individual's self-esteem [38], which is always experienced as highly pleasurable. Digital games therefore combine the suspense and relief of traditional media entertainment fare with oportunities to boost one's own self-esteem, which leads to a 'double portion' of enjoyment in case of successful episode resolution [38].

However, if the players' attempt to deal with a game situation fails, high levels of frustration may arise, as the players will have to blame themselves for the failure, which causes a decrease in self-esteem. The games' nonambiguous feedback to players' inputs limits the possibilities to attribute failures to external forces (e. g., bad luck). Such experiences of frustration may cause a stronger motivation to master the episode in the next run or to a withdraw from the gaming session. The exact circumstances under which people decide for a second try or for the termination of the playing process are probably linked to individual differences – some people can bear many incidents of frustration, others cannot stand a single disappointment. In any case, negative outcomes of episodes are not accompanied by feelings of enjoyment, even if

they increase the playing motivation. On the intermediate level of complexity, then, the relevant dimensions of video game enjoyment are curiosity, suspense, relief, and the increase of self-esteem. Game factors that address those dimensions are offfered possibilities to act, the repeated construction of episodes that produce uncertainty about its outcome and offer a difficulty level which allows for success and victory. It should be noted, however, that episodes in which the probability of the players' success is too high would fail to start the suspense-relief cycle, which would diminish enjoyment and facilitate boredom [19].

Imagination and the Transportation into an Alternative Reality

On the general activity level of the model, the connection between the interactive elements and the narrative framework of digital games is crucial for the entertainment experience. As most games let their players take a certain role and participate in a story line, the single actions performed on the episode level are integrated and filled with sense. They melt into the experience to be part of an alternative reality, the game world. Most often, this simulated world features characters, adventures, technologies and social rules that differ substantially from the real world. Such differences increase the appeal of the illusion to enter the game world, because new experiences can be made, new objects and actions can be tried out, and new (social) interactions can be performed. All of these expansions of one's daily life do not cost anything, for example, physical dangers or monetary risks. Playing digital games allows for (interesting) vicarious experiences in domains of life that cannot be accessed in reality.

Developmental psychologists have identified these simulation aspects as most important features of playful actions [23] [24], because they help the

individual to cope with their real life [25]. Vicarious experiences of power and fame, for example, may compensate for real feelings of powerlessness and being an outsider. Children and adolescents expand their repertoire of available actions, cognitions and emotions through playful actions, as they can try out new behaviors and learn vicariously about their consequences. The playful alteration of one's own life circumstances leads therefore to feelings of exoneration from daily sorrows and problems and to perceptions of increased competence and self-relevance. Both experiential states are highly appreciated by most individuals and thus come along with states of pleasure and enjoyment.

Similar considerations about a perceived change of reality can be found in communication research as well. The concept of escapism [13] [12] refers to the motivation to use mass media for the purpose of temporarily leaving one's own life circumstances behind and enjoy the pleasures of a media world. Such escapes from reality into mediated worlds are connected to enjoyment, as they allow the receivers to forget about their real problems and sorrows and to engage in the more interesting and appealing events of the media product. In addition to the concept of escapism, the idea of entering an alternative world depicted by a medium has been addressed under the notion of presence or telepresence [30] [37]. This concept is focused on the spatial aspect of changing one's reality, which is typically exemplified by virtual reality systems. They connect to multiple senses and may produce very rich experiences of the mediated environment. Computer games may be capable to induce states of Presence as well, which would foster enjoyment for the same reasons that have been discussed above (see [18] for details about connections between Presence and enjoyment).

In sum, the model suggests that on the highest level of the complexity, the enjoyment of playing digital games is characterized by the perception to be part of an alternative reality and to own a new action role. This state allows for vicarious experiences that compensate for real problems and bad moods and lead to feelings of importance and competence. Computer games are considered to foster such enjoyable perceptions in a unique way. They can simulate spatial environments at high degrees of fidelity (imagine, for example, the stunning 3D graphics of ego-shooters like "Far Cry") and offer an appealing narrative framework. Moreover, participation in the game world and narrative is interactive, that is, people may not only observe interesting things, but can do them by themselves. Therefore, computer games are regarded as interactive simulators of inaccessible domains of life, which makes them perfect entertainment media with respect to the concepts of coping, escapism, and presence.

AN AGENDA FOR THEORY-BASED, EMPIRICAL RESEARCH ON THE ENJOYMENT OF DIGITAL GAMES

The conceptual model introduced in this article provides some answers to the question of computer game enjoyment. Its formulation was guided by the perception that digital games combine pleasurable elements of mass media products (i. e., narrative frameworks, suspense-evoking events) and toys (i. e., possibilities to act, responses to players' actions; cf. [14]). Consequently, the experiential states that may occur during digital game play are assumed to be a combination of using a media product and to play a game [33]. From this point of view, the model has elaborated the main dimensions of the entertainment experience that people derive from playing digital games: effectance, curiosity, suspense and relief, increase of self-esteem, and the escape from reality in terms of compensation, self-relevance and competence.

While this model probably covers the majority of the factors and dimensions of the entertainment experience during computer game play, some additional theoretical considerations appear promising. For example, what is the role of competition and performance [35]? Is the increase of self-esteem the only relevant aspect of competing, performing well, and winning? As people differ substantially with respect to their performace motivation and their interest in competition, there may be some more relevant facets which have been dealt with on the second level of the model in too general terms.

In addition to some theoretical completions, future work on digital game enjoyment should clearly include more empirical investigations. In spite of some initial empirical support [14] [16], most assumptions of the presented model still have to be tested. Experimental studies should be conducted to identify the factors of video game enjoyment step-by-step, which may lead to new insights that suggest revisions of the model. Moreover, the experiential states during game play have to assessed empirically. Some survey designs have addressed such states (e. g. [28]), but process-oriented measures such as the think-aloud methodology may allow for additional discoveries relevant to the explanation of video game enjoyment.

The goal of providing theory-based, empirically confirmed answers to the question of why playing digital games is so entertaining requires a lot of additional work. The model presented in this article is hoped to inspire theoretical discussions and empirical studies alike, which will move the evolving digital games research community one step forward towards the explanation of one of its very basic and most important questions.

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Cultural

GENDER AND ENTHNICITY

IV

21. THE REPRESENTATION OF GENDER AND ETHNICITY IN DIGITAL INTERACTIVE GAMES

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ABSTRACT

The actual content of games is an understudied area in social scientific research about digital interactive games (DIGs). This paper aims to contribute to the understanding of game content, in particular with respect to the portrayal of men, women, and people of different ethnic origin. Earlier studies by Provenzo [14], Gailey [8], and Dietz [6] concluded that games were dominated by stereotypic male characters with a few stereotypic females in minor roles. Nowadays, quite a few DIGs have women in leading parts. We want to establish if this change resulted in a multiplicity of meaning in the representation of gender and ethnicity [10]. This paper reports a content analysis about the ways in which gender and ethnicity are represented in the game. We concentrate on the portrayal of the leading character, and supporting role in the introductory film of the DIG. Our sample consists of 12 games that run on 'Next Generation Consoles' (PS2, X Box, Game Cube). Among the titles studied are games with a female leading character (for example, Tomb Raider, Parasite Eve), and with a male leading character (for example, GTA ViceCity, Splinter Cell). Characters in supporting roles are diverse: colored, and non-colored men, as well as colored and non-colored women

KEYWORDS
Computer games, content analysis, gender

INTRODUCTION

In this paper we report a descriptive analysis of the manifest content of a dozen contemporary video- and computer games. We will use *digital interactive games* (DIGs) as a general nomer to include video-games that are played in arcades or on game consoles (e.g., Playstation2, X-box, GameCube and the Gameboy), computer games played on PCs, and on-line games on the Internet. We subjected the introductory film of each game to a content analysis in order to establish how gender and ethnicity were represented. In the past decades, representational issues have been subjected to research on a regular basis, but most research was dedicated to the representation of men, women, and ethnic minorities in film, television shows, and advertisements [9, 21]. The scientific attention for game content has thus far been limited. There is a small tradition of investigating gender roles and ethnic portrayals in a sample of DIGs [3, 6, 8,

14, 20]. Other authors concentrated on a detailed analysis of the text of one specific game [10, 19].

Our reasons for studying game content are both substantial and contextual. On a substantial plane, anyone slightly familiar with DIGs must note the advance of tough women in recent years. In the 1990s, Lara Croft seemed to have paved the way for adventurous, tough, and competent female protagonists. This new gender position raises questions about the proliferation of this shift away from the traditional, dependent female role, as well as about likely changes in the representation of masculinity within DIGs. Our contextual reason for a concentration on game content has to do with the incessant worries about DIGs. The increasing popularity of games has produced considerable public concerns, revolving around a variety of issues, such as the omnipresence of violence (particularly in the aftermath of the Littleton, USA and Erfurt, Germany school shootings[1]), and the addictive properties of games [13, 18]. In the context of this paper, the concerns raised about the stereotypical representation of women and non-white ethnic groups in most games are particularly relevant [2, 6]. In the public debate, it is often argued that games are special in the way they influence perceptions and attitudes of their audiences. Their interactive nature requires effort, and focused attention [12]. As a result, gamers are immersed in the DIG, and thus prone to internalize its omnipresent stereotypical portrayals of women and ethnic minorities [17].

Our research aimed to advance scientific knowledge about games, and also aimed to feed public discussions by investigating the representation of gender and ethnicity in a dozen contemporary, state of the art games. We used a content analysis to count male and female characters, and characters from different ethnicities, and we ascertained whether game characters were stereotyped. Before we explain why and how we executed this content analysis, we will first outline a general trend in research about the representation of gender and ethnicity in traditional entertainment media, such as, film and television.

GENDER AND ETHNICITY REPRESENTED IN ENTERTAINMENT MEDIA

Entertainment media are used to satisfy a variety of needs. Most needs are concerned with relaxation and diversion, but some are of a different kind [11, 16]. For many, using entertainment media is gratifying because media enable users to understand and evaluate their own identities [11]. Media are an inexhaustible resource of identities. They represent publicly a diversity of identity options regarding, for example, gender, ethnicity, lifestyle, but also feelings, behaviours and attitudes. The diversity of representations results in a complex array of dominant identities, marginal ones, as well as many contradictions [1].

Film and television
The actual representation of identities has been studied in a number of projects. Most research was devot-

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[1] The adolescent boys who shot their fellow pupils in Littleton USA (April 1999), and the 19 year old who murdered his school mates in Erfurt, Germany (April 2002), happened to spent a lot of time playing the violent games Doom, Duke Nukem, and Counterstrike, which was immediately identified as a likely cause of the shootings.

ed to the portrayal of women in film, and television fare. A rather clear picture emerged from studies covering the 1950s to the early 1980s: Women were generally represented in a caring role, preferably as mothers, or housekeepers. They were also portrayed as sex objects, trying to be as attractive as possible for male spectators [21]. The dominant trend was never monolithic, as for example illustrated by the intelligent women, and (over)sensitive men in Woody Allen's *Annie Hall* (1977) en *Manhattan* (1979) [9]. A further, and more radical diversification of femininity occurred in recent decades. Successful professional women were at center stage in the TV series *Ally McBeal* (1997-) and *Sex and the City* (1998-), whatever their preoccupations with relational issues. In the same period, films as *The Matrix* (1999), *Hannibal* (2001), and, of course, *Lara Croft: Tomb Raider* (2001) underlined the shift from the private to the public domain. The protagonists were independent, intelligent, professional experts, and skilled fighters, too. In general, female roles in 1980s and 1990s were tougher, and many women were portrayed as young, and single in a work environment, although there still were many women forefronted as 'housewives' in domestic sitcoms [7]. The representation of masculinity on screen has been less subject to change. Contemporary heroes retained the 'cool' single mindedness of their predecessors in the 1960s, although nowadays, male characters sometimes show glimpses of their sensitivity [9]. Apparently, media trends are similar to socio-cultural ones: The female gender position changed, and diversified, the male far less so [5].

Digital interactive games

Digital interactive games hold a special position among media in the context of representation. Their interactive nature enables gamers to enact, or *perform,* identities in the most literal sense of the word. The gamer can actually 'be' his character in a playful virtual reality. The opportunities for playfully prob-

ing identities are unique, and hardly ever encountered in other (media) contexts. For example, in the game *007 / Nightfire* one can choose to play the part of James Bond, which takes it one step beyond passively witnessing the actions of the hero on a movie screen.

The ways in which men, women, and ethnic minorities were represented in DIGs was investigated in a small number of studies. In 1991, Provenzo published his research about Nintendo games. He concentrated his content analysis on the covers of the boxes of 47 games. He counted 124 human individuals in the cover illustrations. A vast majority of 92% was male (115 characters), and 8% female (9 characters). Twenty four percent of the men were represented in a dominant position, whereas none of the women were. By contrast, three out of the nine women were portrayed in a submissive pose, and none of the men were [14].

A couple of years later, Dietz analysed 33 games on the Nintendo and Genesis game-consoles. Thirty percent of the games did not have a female character in either the leading part or supporting role. When the game did contain a female character, she was in 21% of the cases portrayed in a submissive, stereotypical position. Only 15% of the females attained the status of a hero in the game. The other female characters were princesses, wise old women, typically in a position to be released by the leading male character. Overall, Dietz noted, DIGs were dominated by masculine themes as, for example, action, war, violence, competition and sports. She added that almost all characters were "Anglo" [6].

A similar pattern was found in a recent study about the representation of identities in games [3]. The researchers of Children Now analysed the content of 70 DIGs and found a wide range of traditional, if not

stereotypical men and women portrayed in the games. A meager 16% of their sample contained female characters. Men in the games were competitors in 47% of the games, and 50% of the women functioned as bystanders – they did not engage in the action. The characters were predominantly white, especially the heroes who were all white (Children Now, 2001).

The last study to discuss is the expanded replication in 2002 of the Provenzo study by Urbina and his colleagues [20]. Their research embraced more than Provenzo's: They also studied covers of 87 PC-games in addition to a set of 79 console games. The researchers scored 286 human characters in the cover illustration. Like in the Provenzo and Dietz studies, the vast majority is male (239, is 83 %). Further, 71% of the male characters appeared in a dominant position, and 34% of the female characters in a submissive one. A radical change occurred among female characters: 50% of the women were represented in a dominant position, which is far more than the small group of female 'heroes' in Dietz' research. Finally, five male characters were portrayed in a submissive position.

In conclusion, we should first note that it is somewhat hazardous to compare the results in detail, because of the divergence in samples. As we have seen, some researchers focused on consolegames, others included PC games too. To complicate matters further, the studies span a decade, which means that the availability of games changed drastically. The samples were also drawn in different ways. One sample, for example, consisted of best sellers in a local store, another used national sales charts. If we cautiously draw conclusion from the subsequent results we note first that DIGs were dominated by a traditional representation of gender relations with women in submissive roles. It also evident that most characters were white. The submissive position of female characters in DIGs was underlined by two other studies. First, by Gailey, who found that women were underrepresented in games. If they were present, they were forefronted as objects for male fantasies [8]. Second, by Trunnel's detailed analysis of *Final Fantasy IX* in which it was concluded that women in the game functioned as a side show [19]. The dominant trend should not blind us for the fact that the results of a recent study showed some change. Urbina and his team reported that 50% of the female characters held a dominant position, and they also found a tiny number of 5 submissive men [20]. The trend toward female dominance was exemplified by the icon of female toughness in the 1990s, Lara Croft [10]. This raises the question how gender and ethnicity are represented in games that are on the market in the early 21st century.

METHOD; WHAT DID WE DO?
We subjected twelve games to a content analysis in the social scientific tradition [15]. We choose content analysis as a method for two reasons. First, our research question is concerned with the representa-

tion of gender and ethnicity in general, that is across games. We are not particularly interested in unique representations in specific games. A quantitative description of a limited set of variables in several games is most likely to contribute to an answer about the portrayal of gender and ethnicity. Second, we wanted to be able to relate the results of our research to earlier research about this issue. Our predecessors used content analyses to qauntify and report their observations, and so did we [3, 6, 14, 20].

A sample of games was drawn for the games available in 2002-2003. The sample was non-random because we used the following criteria for inclusion:

1. the game has both male and
    female characters
2. the characters in the game are
    ethnically diverse
3. the game is popular
4. the sample is limited in number
    for practical reasons
5. the game is available on console

The first and second criterium were used to guarantee that the game provided material about the representation of different groups. We did, for example, not include sportsgames as *Fifa2000*, or race simulations as *Gran Turismo*. The characters in those games are either all male, or hardly developed in a role position. The third one served to prevent that we would be occupied with games in a niche of the market, that were possibly unique in their representation of gender and ethnicity. The two last practical ones resulted from considerations about the available time for this project, and the accessibility of the relevant DIGs. Our final sample consisted of the following twelve games:

Charlie's Angels
Devil May Cry 2
Enter the Matrix
Final Fantasy X
GTA Vice City
Metal Gear Solid 2: Sons of Liberty
Parasite Eve 2
Primal
Shadowman 2: The Second Coming
Silent Hill 3
Splinter Cell
Tomb Raider: Angel of Darkness

Unit of analysis

A fundamental decision in any content analysis is about the units that are subjected to analysis. DIGs are multi-layered products, that provide an enormous amount of material. It is hardly conceivable to analyse twelve complete games. Earlier content analyses of games solved this problem by taking the illustrations of the boxes of games as their units of analysis [14, 20]. We decided to be as selective as our predecessors, but not to confine ourselves to static pictures. We concentrated on the introductory films of the games. This film provides a clear outline of the game, its main characters and the dominant storyline. It is, in other words, an adequate summary of the game, its purpose and content. Our research question about gender and ethnicity directed us towards the human characters. Animals, monsters, and objects were not analysed. In each film we concentrated on the dominant, or leading character (the protagonist), and on one character in a supporting role.

We designed a codebook that enabled us to determine the representation of gender and ethnicity in the games. Scoring gender was largely based on the physical features of the character, with respect to ethnicity, the judgment about appearances was supplemented with the language spoken by the character. Ethnicity was difficult to categorize. The earlier studies generally

employed a rather gross differentiation between a so called 'white' group and 'non-white' minority groups. In our codebook we differentiated between African descent, Latino or South American, and Asian. Because many games were set in a more or less American context , we also included a group of 'white' US minorities of European descent (for example, Russians, Poles and Italians). To differentiate this group from the dominant white group we used 'Caucasian' as a label for the dominant whites.

The game characters were further scored with respect to their position in the game (Dominant, Submissive) and the actual part they played (Hero, Evil character, Tough character ('macho'), Mother, Housewife, Princess, Helper or friend, and Victim). A final set of variables was concerned with the physical features of the characters: Attire, Bodyshape, Length, Hair, Legs, Buttocks and Breasts.

Procedure

Two coders scored the introductory films using our codebook. The first coder was one of the researchers (RGM), the second one a woman with no backgound knowledge about this project. Both coders were trained, and discussed the codebook which resulted in a slight revision of some variables. The final version of the codebook was used to test intercoder reliability. Three games outside our selection of 12, notably *Devil May Cry, Maximo: Ghosts to Glory* and *Rygar: the Legendary Adventure* were scored by both coders. Cohen's Kappa was used to establish intercoder reliability [15]. The mean Kappa across variables was good (.86). The coders then scored the introduction films of the 12 selected games. Each coder analyzed a set of six games.

RESULTS

Our sample of 12 games was dominated by male characters. Thirteen out of 22 game characters (about 60%) were masculine. A difference appeared between characters who had a leading part in the game, and the ones in a supporting role. Among the leading characters there was an equal gender distribution (50% male; 50% female), but supporting characters turned out to be 70% male and 30% female.

With respect to the ethnic background of the characters, we observed a white, or more precisely put a Caucasian, background in about 55% (12 out of 22 characters). Leading characters showed a majority of 67% Caucasians, with examples like Solid Snake in *Metal Gear Solid2*, and Sam Fisher in *Splinter Cell*. Supporting roles were a little more diverse, although the Caucasian group was with 40% again the largest one. If we concentrate on gender differences within the ethnic groups, our analysis shows that a large majority of women in leading parts were Caucasian (83%). Leading male characters were divided equally between the Caucasian group and the three other groups. For example, Mike Le Roi in *Shadowman 2: The Second Coming* is of African American descent and Tommy Vercetti of *GTA Vice City* is portrayed as an Italian. In the supporting roles there were no Caucasian females, among the men a slight majority of Caucasians was discernable (4 out of 7) (57%). Ghost in *Enter the Matrix* and Bosley in *Charlie's Angels* illustrate the diversity in characters in supporting roles: They are of Asian and African American descent.

It comes as no surprise that the leading roles, or protagonists, in the games held a dominant position with respect to other characters. It should be noted though, that there was no difference in this respect between male and female leaders. The supporting roles showed an interesting contrast. First, female supporters held either a dominant or an equal position in the game. In other words, we did not observe a female character in a submissive position. Second,

there were three male supporters (43%) observed in a submissive position, one held an equal position, and 5 were dominant. The three men in supporting roles that had a submissive position functioned as a helper, or a friend, but not as a victim. In our sample of games, the two victims turned out to be male, and not female, and they held a dominant position in the game. This seems paradoxical, but it is not. Sometimes, the leading character of a game is seriously injured by a monster. For example in *Shadowman*. Thomas Deacons is a tough and muscular police officer who falls victim to a monster, but succeeds to escape.

Stereotypes are often linked to social positions and roles. With respect to the roles played in the games the hero role was observed in 60% of the cases. This was followed by the friend or helper role (18%), the victim's role (9%), evil character (9%) and tough character (5%). A result counter to traditional gender stereotypes is that all females in leading roles played the part of the heroine. Among the males, Tommy Vercetti from *GTA Vice City* was the exception to the rule: He was scored as a 'tough guy', rather than a hero. The other dominant males were heroes in the game. Male characters in supporting roles were generally friend or helper. Women in supporting roles played a diversity of roles: Heroine, evil character, and helper/friend.

Physical features are important markers of gender and ethnicity. Our observations confirm the importance that is generally attributed to breasts in a game context. All female characters had explicitly shaped breasts, Lara Croft en Jennifer from *Primal* were portrayed with large breasts. Buttocks also were difficult to ignore. A large majority of female characters (83%) had well proportioned shapes, but about 50% of the male characters also appeared with eye catching behinds. In our sample, men generally had broad chests, whereas women had a normal body shape. Both men and women, however, were 'thin', that is to say, they had well shaped, athletic bodies. Really muscular bodies were the prerogative of men, women had bodies with a rather normal set of muscles. The legs of our characters were in most cases long rather than normal, but the largest contrast between normal and long legs occurred among male characters. Finally, sexy attire was mainly, though not exclusively observed among female characters. The male figure Dante (*Devil May Cry 2*), for example, was presented in an explicit, sexy and seductive outfit. The clothing of Lucia from *Devil May Cry 2* or Jennifer from *Primal* confirmed the common stereotype about sexy attire.

CONCLUSION AND DISCUSSION

Our content analysis of twelve introduction films of games confirms the trend observed by earlier research: games are dominated by male characters [3, 6, 14]. In our study, however, the number of female characters was far larger than before. This is of course partly due to our selection. We deliberately choose state of the art contemporary games with a diverse population. So, the fact that all games in our sample had female characters is not surprising. Two results were however surprising. First we found that women and men were distributed equally in the class of leading characters.This is altogether different from the exclusively male leading characters in the studies by Provenzo and the Children Now team [3, 14], and quite different from the tiny percentage (15%) of female heroes as found by Dietz [6]. The trend toward stronger and dominant female roles was first signalized by Urbina and his colleagues [20]. The second remarkable result of our work was that we found no submissive female characters at all. This contrasts with the presence of submissive females in all other studies. Like Urbina and his collagues we found a small number of submissive male

characters. The example of Jennifer in *Primal*, who must embark on a journey to rescue her boyfriend Lewis illustrates than men in contemporary DIGs can be victims who must be saved by a female character.

The overrepresentation of Caucasian characters is in line with the observation of a vast "Anglo", or white majority, as observed by Dietz and the Children Now team. In both studies heroes belonged exclusively to the white ethnic group, like in our sample.

The physical features of male and female characters in our study were stereotypical. It is difficult to compare gender stereotyping exactly, because the earlier studies do not report exact figures about attire and appearance. Both Dietz and the researchers from Children Now report, though, that female characters appear in stereotypical, and hypersexualized dress. We can safely assume that visible markers of gender were as stereotypical as in our sample. One aspect of the gender role may have changed: We found that some male characters were presented as sexy as their female counterparts.

The set of studies about game content in the past dozen of years, including the project reported here, allows us to conclude that DIGs are predominantly populated by characters from a Caucasian background. They are generally male. The role men and women play in games has changed in recent years: As leading characters, women hold a position they never had before. It seems that the representation of men has been less subject to change, although some of them emerged recently in non-dominant positions. Gender stereotypes are particularly robust with respect to physical features. Men are still represented as hyper muscular characters, and women hyper sexualized characters. In other words, quite a few women became leaders in games, but they continue to function as 'eye candy' for their consumers, the gamers.

As a final note, we submit that the limitations of this study are obvious. We choose a content analysis for good reasons, but are well aware of the disadvantages of this method. Analysing a limited set of variables in the introduction film is rather static. It does not allow to study the complexities of gender and ethnicity. We do not know how serious this problem is, because we concluded that representations in the introductory films are pretty straightforward, if not one-dimensional. A more fine tuned analysis of the film's text may conclude otherwise. The exclusive focus on game content evidently limits the range of our results. We can now feed the public debate with the notion that women and men in DIGs are represented stereotypically, but somewhat less so than earlier. This study did not address the possible detrimental effects of these stereotypes on the perceptions and attitudes of gamers. A reception study about the ways in which gamers use and appreciate the stereotypical characters is needed. It may very well show that the gap between what is enjoyed in a virtual media context, and what is practised in real life is far larger than expected.

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22.~~GIRLS~~ **WOMEN** JUST WANT TO HAVE FUN — A STUDY OF ADULT FEMALE PLAYERS OF DIGITAL GAMES

Aphra Kerr

ABSTRACT

In the past twenty-five years, the production of digital games has become a global media industry stretching from Japan, to the UK, France and the US. Despite this growth playing digital games, particularly computer games, is still seen by many as a boy's pastime and part of boy's bedroom culture. While these perceptions may serve to exclude, this paper set out to explore the experiences of women who game despite these perceptions.

This paper addresses the topic of gender and games from two perspectives: the producer's and the consumer's. The first part of the paper explores how Sony represented the PS2 in advertisements in Ireland and how adult female game players interpreted these representations. The second part goes on to chart the gaming biographies of these women and how this leisure activity is incorporated into their adult everyday life. It also discuses their views about the gendered nature of game culture, public game spaces and game content; and how these influence their enjoyment of game playing and their views of themselves as women. These research findings are based on semi-structured interviews with two marketing professionals and ten female game players aged 18 and over.

The paper concludes that the construction of both gender and digital games are highly contested and even when access is difficult, and representations in the media, in console design and in games are strongly masculine these interviewees were able to contest and appropriate the technology for their own means. Indeed 'social networks' were important in relation to their recruitment into, and sustained playing of, digital games. At the same time, the paper found that these interviewees were largely 'invisible' to the wider gaming community and producers, an issue raised by Bryce and Rutter (2002:244) in an earlier paper, which has important implications for the development of the games industry.

KEYWORDS
Gender, computer games, video games, social networks

INTRODUCTION[1]

European surveys point to a significant age, gender and class bias in the ownership of games consoles and the use of computers for entertainment/gaming purposes [9, 13, 17].

A survey conducted by Livingstone (2002) of 1,287 6-17 year olds in the UK found that almost two thirds of houses had a TV-linked games machine [9:37-38]. This rate of penetration was behind the United States, at 82 percent, but well ahead of most of the rest of Europe (2002: 53)[2]. The study also found that social class and gender were significant factors in relation to ownership of a games console; almost three – quarters of boys compared to around half of girls had a games machine at home, and working class families were more likely to own a games machine than middle class families.

Gender is also an important factor in relation to use of game consoles. A US study of almost 3,000 children in 1997 found that boys, particularly 9-12 year olds, spent about three times as many minutes per week playing games compared to girls and it tended to replace television viewing for them. This study also found that males tended to prefer sports games while for other genres there was no significant gender/genre relationship. The study also noted the disproportionate share of less educational and more violent games being played by low-income and minority children [17]. Finally, a study in Belgium of 1,000 9-11 year olds between 1994-1996 defined almost ten percent of their sample as heavy computer game players (>2 hours a day) [13]. These players tended to be male, were more likely to come from working class backgrounds and had lower academic results. Interestingly they were also heavy television and video viewers but read significantly less than the others.

These surveys would appear to suggest that ownership of a games console, game preferences and frequency of play are related to the male gender. A number of qualitative studies would support these findings including [2, 3, 7, 14, 18]. Indeed both Haddon (1993), Bryce and Rutter (2002) and Wright and Briedenbach 2002 would add that many public game spaces are male-dominated and act to exclude female gamers and fuel the perception that playing digital games is a male preserve. Initial attendance at the first Irish MegaLan in April 2003 where 60 game players played multiplayer online games for a weekend and the Sony sponsored Tekken tournament reinforced this finding; not one female took part in either. Interestingly, Massively Multiplayer Online Role Playing Games (MMORPGs) seem to attract quite high percentages of female players (20-30 percent) and the research conducted by Taylor [15] suggests that the social spheres provided by games like EverQuest can be more inviting and pleasurable for female players.

The absence and/or invisibility of females as consumers is mirrored in the games industry; something the industry is making some moves to address. This has led to the establishment of a 'Women in Game Development'

[1] An earlier version of this paper was a case study for the European funded IST project *Strategies of Inclusion: Gender and the Information Society (SIGIS)* project. More information at http://www.rcss.ed.ac.uk/sigis/ public/D05/

[2] Ireland was not included in this study.

committee by the International Game Development Association (IGDA), marketing campaigns aimed at women and games designed for women[3]. Indeed there are accounts of girl-only game development companies in the United States established to develop games for girls and alternative types of games [3, 8]. However these strategies are the exception and to date have been only partially successful.

> 'The number of women employed in the game development industry is thought to be dramatically low, probably between 5 and 15%. While more research is needed, it appears that the percentage of women game developers has shown very little growth over the past several years. Though programmers are only one of many game development roles women may fill, it is notable that, according to ACM, the percentage of women currently graduating with CS degrees is going down, while in all other science areas the percentage is going up.'
> http://www.igda.org/committees/women.php – Accessed 9/01/2003

With so few women working in the development of games and the lack of female players at public game events it would appear that more research is needed in order to understand more about why so few females are attracted into this industry and culture. Or indeed perhaps the question should be why are so few females visibly participating in the wider games community? This case study is a contribution to our under-standing of how some women perceive and negotiate game marketing, game culture and game content.

Research Questions & Methods

Four key questions underpinned the research project on which this paper is based.

1. To explore the social construction of a 'gamer' in media representations and the gender dimension of it.

2. To explore the issues faced by females in terms of both entering and participating in the games culture.

3. To explore the pleasures that females obtain from playing digital games.

4. To explore the relationship between game playing, computer usage and profession.

In order to locate a sample which was distributed geographically, in terms of social class and age profile it was decided to post an ad on an Irish website www.irishplayer.com[4]. This website offers reviews of games on all platforms and game related news. The editor of this site kindly offered to create a banner on the front page of the site, which would link to a page with information on the research project and a form, which people could send to the researcher if they wished to participate. The initial banner on the front page read 'Female Gamers, please click here.' This was posted in November 2002 and four women responded. Without prompting the editor changed

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[3] http://www.igda.org/women/

[4] Unfortunately this website has now closed down.

the wording of the banner to 'Are you a female gamer? Maybe you can help us.' The next day three responses were received and the changed wording seems to have helped. Following this things went quiet again. This may have been because women infrequently used the site, because the women using the site did not wish to be interviewed or because Christmas intervened.

During the research period it became apparent that labeling oneself as a gamer and associating oneself with the range of meanings that people attached to that term was an issue for many females. This issue is returned to later in the case study and certainly people had a range of responses to the question 'would you call yourself a gamer?' It also developed in discussions with people who were asked 'do you play digital games?' In many cases, I had to explain that I was interested in females who played any type of digital game, on any platform, with varying frequency – interestingly, this did not seem to correspond with interviewees own perceptions of what a gamer was.

While the website assisted in sourcing women living in Dublin it did not help to locate women elsewhere in Ireland: many of the females who responded lived in the UK, the US and Canada. Similarly, it did not help to broaden the age or class profile of the sample. The women were all aged between 18-30 and all were currently studying or had received a third level education. On reflection this was found to reflect the age, class and geographic distribution of the Internet in Irish homes[5]. Certainly the class profile of these respondents does not correspond with the class profile of the surveys outlined in the introduction [9, 13, 17].

Other interviewees were sourced through word-of-mouth. The staff of the www.irishplayer.com website were especially helpful here. As a result two of the women subsequently interviewed wrote game reviews part-time for irish-player.com and another girl worked in a games localisation company in Dublin. While initially I was wary of the fact that the women were working with games as well as playing them as a pastime, it turned out to be very useful in that they had been exposed to a wide range of games they might not have played otherwise.

In terms of sourcing interviewees through my own social networks it was interesting that none of my colleagues who worked in IT related jobs or who played on my local sports teams were able to put me in contact with any women who played computer games and none of my sister's colleagues (aged 24 years) could either. Finding female gamers over 18 proved more difficult than anticipated and the fact that each interviewee could not provide me with another name of a female friend who played – a classic research technique - points to the invisibility and perhaps the low overall percentage of women in the games culture in Ireland. In the end I approached females in local shopping centres and placed posters in game shops.

[5] 11. O'Donnell, S. News Consumption in Ireland and the European Union: Traditional Media Vs the Internet. Irish Communications Review.

GIRLS WOMEN JUST WANT TO HAVE FUN – A STUDY OF ADULT FEMALE PLAYERS OF DIGITAL GAMES

This research paper is based on two interviews with professionals who market games, one male and one female, and ten interviews with females aged 18 and over who play games on any platform. The two professionals who market games were involved in the launch of the PS One and the PS2 in Ireland and the development of advertising campaigns designed specifically for the Irish market. All but one of the ten player interviewees lived in the greater Dublin area, although half of them spent their childhoods and teenage years in rural or smaller urban areas (see table 1.) The oldest female interviewed was thirty and all had played games for at least ten years. Eight of the interviews were conducted in person and two were conducted using Internet relay chat. The face-to-face interviews were recorded and transcribed later for analysis. See Table 1 at the end of the chapter for details of the player interviewees.

It is important to note at this stage that the interviewees were all women who were willing to present themselves as gamers or, at least, females who play games. They may have been less critical of games marketing, game culture and game content than female non-players and lapsed players.

Representing Gamers in Advertising and Console Redesign

In communications and cultural studies there is a wide literature examining the production of meaning in advertising through words and images, i.e. the signification process [1, 16]. The work of du Gay et al. [5] reminds us that the meanings associated with an artefact can be expanded by associating it with different discourses or semantic networks. In their research, for example, they explored the multiple meanings associated with the Sony Walkman and constructed through advertising: Japanese technical know-how, modernity, youth culture, street style and mobility. In addition to this semiotic approach there

is also a growing literature which argues that it is important to understand the contexts of production and consumption in order to understanding the meaning(s) of an advertisement [12].

There is some evidence that producers of consoles and games are using advertising to try to enroll females into the gaming community as consumers. What is interesting about these campaigns is the language and visual imagery used in them, the unusual venues where they are launched and the channels used. For example, Microsoft specifically targeted women with its pre-Christmas 2002 Xbox campaign in Japan [4]. Their campaign was aimed at females aged 20-40 and instead of focusing on game content the campaign focused on the console as good value for money and as a multiple entertainment device e.g. the DVD and Ethernet facility. In addition, Microsoft planed a series of 'hands-on' events in their Xbox café, located in a stylish shopping area in Tokyo. While we do not know how successful this campaign was, this targeting of women in particular is rather unique in relation to console marketing and in contrast with the more common strategy which tends to target men specifically or adopt a more neutral approach to gender and target everybody, at least overtly.

In this section we are going to examine the launch of Sony's PS2 in Ireland in November of 2000 and the associated television advertising campaign. A spokesperson for Sony Ireland stated that it markets its PS2 to both males and females and, as with the Xbox, they market the PS2 not as a gaming system but more as an integrated entertainment system, which plays DVDs and CDs as well. The choice of a phrase like 'entertainment system' rather than 'gaming system' is deliberate and points to attempts to move beyond the hard core gaming market to a wider age group and to female consumers as well.

The PS2 is marketed to the 18-34 year old age group while the PS One has evolved into a console for a younger age group. Data provided by Sony Ireland indicates that the highest percentage of PS2 consumers are in the 20-25 years of age bracket while the largest percentage of PS One users in the PAL territories is the under 10 age group followed by the 10-12 years age group[6] (SCEE (Ireland) 2002).

In Ireland the Amárach Consumer Trendwatch quarterly report (June/July 2001) found that of 1,000 adults surveyed aged between 15 and 74 years, 32 percent owned a games console. The most popular was the PS One followed by the PS2 (Personal Communication)[7]. According to Sony, Ireland has the highest per capita rate of PS One ownership outside Japan at 38 percent (Personal Communication). This penetration rate seems to be continuing with the PS2 where Ireland has a 10.6 percent penetration rate, while the UK only has an 8.4 percent penetration rate (SCEE (Ireland)). Sony has an 80 percent market share in Ireland and their strength is at least partially based on the fact that they maintain an office employing 16 people in Ireland while none of their console competitors had an office in Ireland until late 2002. Sony also spends significant amounts of money on marketing and localising campaigns for the Irish market. When the PS One was launched in Ireland in 1995 the company created an original television advertisement for the Irish market rather than show the global television 'creative'. The Irish office at the time believed that the central television advert was too 'hard core' and 'too niche' for the still embryonic Irish market. Sony believes that they have (note the choice of 3rd person pronoun):

'Opened up gaming to be socially acceptable.... Because pre-PlayStation gaming was 14 year olds, spotty kids, locked up in his room on his own. A social outcast... PlayStation now fits in with all your normal entertainment experiences and it has become accepted, it is now an accepted form of leisure entertainment.'
(Spokesperson for SCEE (Ireland) Ltd.,)

By the time Sony launched the PS2 in 2000, the company held a considerable market share in Ireland and felt the market was ready to accept the company's global television advertisement. However this was only one element in a cross-media and cross-venue campaign. Over 1.26 million euro was spent in Ireland on advertising the PS2 on Irish television, in national and regional press, on the web, in university washrooms, on bus shelters, in nightclubs and on a high profile press launch. In an interesting counter to the risqué images and language of their advertising campaign the company also moved to address any debate about the negative influence of games. As such, they came together with the film censor and the Minister for Justice to launch an age classification system for games in Ireland. The company seems to have been trying to create two images: an exciting/risqué/cool image with their consumers and a responsible, locally involved and caring corporation with public bodies and parents.

The PS2 launch campaign was more about associating certain cultural meanings with the PS2 and differentiating it from other consoles than it was about informing people about the technical characteristics and specifications of the console. One interviewee,

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[6] PAL territories refer to Europe, the Middle East, Africa, Australia and New Zealand.

[7] Unfortunately, as this information is contained in a private report information on gender and social class were not made available to the researcher.

who worked on the launch of the PS2 in Ireland, explained that much of their work revolved around brand positioning and maintaining the 'cool', 'quirky', 'trendy' image, which Sony was carefully developing around the product. As with the Sony Walkman, the PS2 was aimed at a young adult age group (18-34 years) and the channels used to communicate with this target audience reflected this, i.e., post watershed advertising, late night alternative news shows, radio presenters, music magazines and nightclubs. While this interviewee admitted their market was predominantly male she argued that the campaign they developed tried to achieve a gender balance.

> 'realistically it is very much a male domain, however, we have to be very careful in our marketing of the PlayStation ...that there is no gender bias.. that is their strategy.'
> (A PS2 launch employee)

David Lynch, best known for art house films like *Blue Velvet* (1986) and the television series *Twin Peaks (1990)*, directed the 30-second television advertisement used to launch the PS2. The gritty black and white ad follows a nervous looking man through the corridors of a strange place. Horror type sounds, camera jiggle, extreme close-ups juxtaposed with distance shots and rapid editing set the mood. A women dressed in white signals to be quiet. We then see the man's head floating away from his body as it moves to a space where there are three seated characters; one normal looking human, one human sized duck in a suit and one human wrapped in bandages. There is no music, just the 'horroresque' sounds and

random words emphasized with a lot of reverb. The duck then speaks directly to the camera saying 'Welcome to the Third Place.' This is followed by a distant screaming of 'PlayStation Two, The Third Place' as the PS2 logo appears in blue. Sony is not mentioned.

For this researcher the ad was both surreal and attention grabbing. Much was made of the fact that it was directed by David Lynch whose trade marks are to the fore in the use of strange frequency noises, dark environments, distorted characters, strob lights and dreams[8]. The fact that the ad was shot in black and white was curious given its connotations of veracity and documentary but in this context it served to add to the surreal feeling of the ad and traded on the trendy, 'edgy' status of David Lynch. The form (editing, camera movement) and content (surreal characters, words) all connote a surreal world of dreams where anything is possible and there is an underlying current of darkness and absurdity. The duck speaking direct to the camera has an air of authority emphasized by the suit. 'The Third Place' appeared to be a parallel universe where entertainment and life plays by its own rules, an underground, unconventional and alternative place where people can escape from their mundane everyday lives.

A press release at the time noted that the first and second places are work and home and the Sony PlayStation is meant to take you to a third, personal place of entertainment. When asked if any particular advertising campaign stood out for them, all except one of the game players identified 'The Third Place' ads. At the time it has to be noted that there was very

[8] http://www.imdb.com/name/nm0000186/bio

little console and game advertising on mainstream television channels and this added to the uniqueness of the PS2 ads. All the interviewees were very positively disposed to them, even if they all had a slightly different interpretation as to what they meant. So the ad seems to have succeeded in terms of raising brand awareness with this group, but they did note it didn't make them want to rush out and buy the console – surely the ultimate aim of the campaign.

Indeed Sony's self-reported gender neutral approach was only partially successful in terms of encouraging women to buy PS2s and as such, is clearly not an example of a successful inclusion strategy. According to Sony's own data (2002) across the PAL territories only 6.7 percent of PS2 registered owners are women. Indeed a spokesperson for Sony felt that as the PS2 was only on the market two years this percentage of female ownership was quite high. While grouping figures under the broad heading of PAL territories tends to flatten out differences between countries it is interesting that in Japan the percentage of female registered users rose to 11.1 percent for the PS2. Clearly however, in the PAL territories women are less likely than men to purchase a PS2 and register that they have done so.

Of course the decision to buy a console, which on release can cost up to ⨙300 euro is motivated by a number of different factors. Interestingly the redesign of the PlayStation into the PS One may provide some insight into these factors. The Sony Ireland interviewee noted that the registered user base of the Sony PlayStation in Ireland was originally almost 90 percent male. However, when the Sony PlayStation was redesigned, repackaged and re-launched at a new price point in 2000 the percentage of female purchasers and registered users of the console rose from 10 percent to almost 20

percent. While women were not targeted specifically by the re-launch Sony felt that price and size/shape were crucial motivating factors for female consumers.

> 'If you look at the female population and the male population they have different likes and different wants and different needs and what is a priority for a guy is different from a girl obviously. And I think affordability was crucial to PlayStation where yes a lot of females were playing PlayStation, they didn't own one, but they were playing it. Because they didn't see the merit in going out and buying one of these when they could be buying makeup or clothes or whatever. So I think when A) the size and shape went down into a nice cute little, nice baby machine, I think that obviously helped because aesthetically it looked really, and was very appealing, and the prices came down as well. So it was affordable and the games are very affordable. There are entry level games of about ⨙12 so the whole thing became much more affordable so they were saying well actually I can fit this into all my other wants and needs and I think that was crucial.' (Spokesperson for SCEE (Ireland) Ltd.,)

So is it all about size, shape and price? Interviews with female game players suggested it was not quite so simple. One of the interviewees said she preferred the new size and price but also pointed to the great range and quality of games available on the platform. Two noted that they found the shape, size and colour of the Xbox to be quite masculine and that was off-putting. By contrast the PS One, the Gamecube, and the Nintendo handhelds were seen as much more attractive. The PS2 was seen as somewhat ambiguous and in between the more masculine and feminine consoles. Even in this small sample of ten females there were some for whom size and

shape were not an issue but range of games and price were.

Affordability was an issue mentioned by all the interviewees. Of the ten girls interviewed none had paid full price for a new PS2. One had bought a PS2 when the price was reduced, one had bought a PS1 and PS2 with reductions from working in a game shop, one had part paid for a PS1 with her brother. Of the other seven interviewees one had won her PS One and PS2 in competitions, one had received a PS2 as a valentine's day present and the other five played on consoles owned by brothers, boyfriends, work or friends. It would appear that price is particularly an issue for those who are buying a console for the first time and may be crucial in persuading people that they can afford to buy a second console for a house where it is proving difficult to negotiate access to the main console/television. For teenagers and students the PS One was more affordable whereas families with more than one child were more likely to save up together for a PS2 or receive it as a present from Santa. Double income households were also more likely to buy a more expensive console. Interestingly all interviewees thought that game consoles were far too expensive and they were quite happy to let their brothers/boyfriends spend their money on them as long as they could gain access to them. Another factor may have been that on launch when consoles are at a premium price there is usually only a limited number and range of games available on the platform. Range of games is a factor which will be discussed in the next section.

For these ten females most of their money was spent on music, clothes, pubs/clubs and eating out. Where the female did not drink or go to pubs/clubs they were more likely to spend their money on games – an interesting finding given the tendency for companies to market in clubs. Even in relation to games the girls rarely owned more than five games and many of these were bought at discount prices, were X-rental games, swapped games, cheap copies, games won in competitions or games acquired in return for writing reviews. In fact there seems to be a myriad of ways of obtaining cheap games and regardless of whether the interviewee was a student, unemployed or working they still tried to obtain cheaper games.

> 'E - The PC is kind of a family PC. The PS2 is my little brother's (he never uses it!) and the Xbox is my boyfriend's dads (we got it for him for Christmas and have been sneakily playing it when he goes to bed…)
> Q- I know you are not working at the moment but would you buy many games yourself when you were working?
> E – I try not to buy them new, as they are so disgustingly expensive. I exchange them.'
> (Erika- 25 years old, unemployed)

Price, design of console, range of games and extent to which one socialises outside the home clearly influence the extent to which females purchase game consoles. We will come back to these issues in the next section but it is interesting to note that Sony Ireland conducts market research in Ireland on their registered user base. Since females are a very small percentage of this base this method does not capture information on females who don't own a console themselves. The females who were interviewed in this case study are clearly invisible to Sony as a company and they are not represented in the information Sony uses to plan marketing and strategic campaigns. Despite attempts at maintaining a gender balance in advertising Sony also admitted that they were only really interested in hard core gamers who buy games on a weekly/fortnightly basis. Even the more committed female games in this sample do not buy games that regularly. Further, gender-neutral advertising for

consoles must be seen in the wider context of more gender specific advertising of specific games across all media. So despite the reported desire to keep console advertising gender neutral we must question the extent to which Sony is genuinely interested in enrolling more female game players. Certainly the redesign of the PlayStation had the unintended consequence of encouraging more females to buy and register themselves as users of the PS One. In order to understand the other factors influencing enrolment and socialisation we will now turn to the personal stories of the female game players.

Social Networks, Translation Terrain and Invisibility

'That's all they really want
Some fun
When the working day is done
Girls– they want to have fun
Oh girls just want to have fun'
http://www.cyndilauper.com

'even if you are not playing and it is just people around you playing, it is kind of time when you unwind, chat away to people and you know, kind of have a laugh, as opposed to being in work, or being in college, or ... the hecticness of going out.'
(A 22-year-old student, Interview 3.)

'It is just fun, you know. It is not even escapism or anything like that, it is just fun to play it, to be that character, to figure out these puzzles and whatever.'
(An 18-year-old student, Interview 4.)

The title of this paper comes from a well-known song by Cyndi Lauper but the words resonate with the description my female interviewees gave of the experience of playing digital games. Playing games for the ten interviewees is fun and a means of relaxation after a hard day working and a good way to pass one's time when one is unemployed or on holidays. In this section we will examine a number of factors which influenced interviewees to become involved in playing and to continue to play digital games. There were however two factors which were viewed as critical in relation to the inclusion of women in the games culture:

1. Existence of an 'offline' social network of players and player visibility
2. Range and quality of games.

With regard to the first issue, it would appear that the existence of a local circle of friends and/or kin who played games and offered easy access to game platforms, games and advice strongly influenced initial enrolment into playing digital games and to a lesser extent influenced whether one continued to play. For these interviewees recruitment into this community came between the ages of 6 and 10 years and was usually the result of having fathers, brothers or male friends who played. Continued participation depended on having brothers, sisters, cousins and friends who played. Indeed during childhood it seems that both boys and girls enjoy the same games and the same platforms which included: the Atari, The Commodore 64, the Amstrad, the Sega Megadrive and the GameBoy while the games played were: *Mummy Maze*, *SuperMario*, *Pac-Man* and *Sonic the HedgeHog*. For these girls the fact that their female friends didn't play was not an issue, it was something they did at home with their brothers, mainly, and sometimes with another sister. Interestingly, none were recruited in their teenage years or later.

Interviewees recalled that it was generally their mother who policed how many hours were played

and made sure game playing did not displace house-work or homework. Interviewees got around the rules and regulations by playing at friends' houses or indeed exploiting their parent's lack of knowledge about game systems by convincing them that the game would break if they paused it! These facts point to the importance of social networks in main-taining patterns of play and suggest that there is an important generational gap with regard to the mean-ing and use of games machines in some homes[9]. All of the interviewees commented on how their parents could not play and did not seem to understand digital games.

Once they became teenagers, the interviewees who lived in larger urban centres, spent time playing games and hanging out with friends in arcades. The arcades were seen as cool places to hang out at lunchtime or after school. Interestingly they all reported that the arcades were places for both males and females, where one player might play and three or four friends would watch and chat. By the time they reached 18 the girls stopped going to the arcades and started to hang out in pubs and cafes. They also had less time on their hands as they attended college, worked, or both. Less committed gamers recalled how they might 'get out of the habit' of playing when there was no community of players available. Continued participation depended to some extent on the maintenance of a local, and physically accessible community of friends who played – as brothers or interviewees left home, new college friends, work colleagues or boyfriends helped to maintain the interest. This informal network was

important in terms of informal education, offering access to a network of skilled players, advice on new games and on how to overcome obstacles in games. The more committed interviewees supplemented this offline network with information gained from websites, magazines and television shows.

The domestic context in which the interviewees lived also influenced their game playing patterns. Five interviewees lived with their parents or a single par-ent, four interviewees lived with their boyfriends and one interviewee lived with friends. Living at home and with friends imposed more limitations on where, how often and how long one played although again the interviewees came up with strategies to over-come these limitations. In particular if the console was connected to the television in the sitting room the interviewees had to accede to the viewing pat-terns of their kin. For some it meant going over to friends or boyfriends houses to play or getting another television so they could play in their bed-rooms. For the interviewee who lived with friends a practice had developed whereby players took turns to play and the joypad was passed clockwise around the sitting-room, between the men and women, and the console was switched off when a favourite televi-sion programme was on. Living with only one other person, a partner, seems to have been easier to negotiate and if both wanted to play a two-player game was rented. Indeed cohabiters tended to buy games that they could play with their partners and a console was preferred because it could be placed in the sitting room and was deemed more sociable than playing computer games on a PC in another room.

[9] Both the importance of social networks and the issue of the generation gap and its influ-ence on the meaning and use of media tech-nologies are discussed in detail by Sonia Livingstone 9. Livingstone, S. Young People and New Media. Childhood and the changing media environment. Sage Publications, London, 2002.

For all interviewees, excluding interviewee six who was unemployed, the amount of time spent playing had decreased as work and other obligations absorbed more of their time. At the same time there is clearly a relationship between their being game players, their attitudes to technology, their technical proficiency and their chosen work area. While none of the interviewees were programmers, they were technically astute users of technology who viewed computers as just another media in their lives. All the interviewees lived in multiple screen entertainment media households with two – six televisions, stereos, videos, radios, game consoles/DVD players and half had personal computers although few had it connected to the Internet at home. All worked with computers and the Internet in college or the workplace. Interviewees related stories about assisting their fathers and mothers to programme the video, doing up the family accounts on the computer or stepping their male cousins through a game that they had already completed. At the same time none of the interviewees played PC games much, and none had any interest in programming or tinkering with the insides of computers. In other words, playing console games was not an automatic route into learning about computer systems, networks or programming. These interviewees were clearly working more with the interface and content rather than the programming side of ICTs. The students interviewed were studying film production, journalism and communications, social care, management and marketing and two of these wrote reviews of games for a games website. Interestingly, all of interviewees who worked were employed in ICT/games related jobs including games localisation, web content management, product management in a games software company and part time in a games shop. For three of these females work encouraged game playing, during and outside of work, and work should be seen as an important part of their social network which facilitated their continued participation in this cultural activity. While many of these interviewees worked in ICT related jobs it is interesting to note that the plug and play nature of console games, or their convenience as one interviewee put it, was a key attraction.

While these interviewees were competitive with themselves and their friends/kin none had taken part in formal tournaments or gaming competitions in Internet cafes. Most pointed out that they did not want to be humiliated by others with much better skills and they did not see the point of playing to gain some sort of elevated status amongst strangers. Two had taken part in informal tournaments in work and enjoyed the banter and competition in that context. One of these did note that she and the other female participants did not seem to be able to compete on an equal footing with the male participants. In response they set up a female only competition so they could improve their skills and at some stage return to compete on a more equal footing with the more experienced male players. Only one interviewee had bothered to fill out a feedback form to send back to a game development company and given that half did not own the consoles they played on interviewees were clearly invisible from an industry perspective and indeed from the perspective of the wider online and public digital game playing community.

Game Preferences

The range of game content available on certain platforms is clearly an important factor, which influences the continued participation of these interviewees and console purchasing habits. When asked what platform they preferred, and why, most responded that they were PlayStation (1 or 2) fans and they loved the games, graphics and convenience of PlayStation consoles. One interviewee preferred the graphics and one particular game on the Xbox but admitted that

the range of games was better on the PlayStation. Range of games is important from another perspective too – in terms of accommodating the different tastes and preferences of these players.

For these women their favourite games were: *Mario Kart, International Super Star Soccer, Zelda, SuperMario, Final Fantasy 7 (2), Conkers Bad Fur Day, Tony Hawke 3, Grand Theft Auto 3 (GTA3) and Tetris*. These are in order: a racing game, a soccer game, a role playing/adventure game, a platform game, a role playing/adventure game, a platform game, a sports game, a racing/action game and a puzzle game[10]. These do not fall into an easy categorisation according to 'traditional' or 'feminine' tastes given the inclusion of sports, racing and *GTA 3*. Indeed, for some interviewees they noted that their taste was changing over time and as they entered their twenties, and as the quality of games improved, they had become more interested in other genres of games. At least two of the women enjoyed playing *Grand Theft Auto: Vice City* which has been hotly debated in the press for its violence (in parts to women). The game is a combination of a racing/ crime/shooting game set in the 1980s in a sunny American city called Vice City. This game would appear to confound any attempt to categorise female preferences as 'traditional' [6] or consistent.

When one went beyond the crude genre categories of games to explore what kinds of pleasures these females got from playing these games some interesting points emerged. Half of the girls liked an element of flexibility or freedom in games in terms of

being able to explore the world in any order they liked and in relation to controlling the main character or creating their own character. This confirms an earlier finding by Schott and Horrell [14]. The ability to change character and create one's own characters in console games indicates that playing with identities is not only part of online game play. Storyline was rated highly by these interviewees as well as puzzles, changing tempo, humour and multiplayer mode (but not online capability). While all these interviewees had a favourite all time game they were quick to point out that they chose which game to play depending on their mood and the context – sometimes they would play a quick and immediate short game, what they called a 'take it or leave it' game. When they had the time and were on their own they would choose a long, story driven single player game and when they had friends over or ended up playing games at a party it would be a competitive multiplayer game. They disliked complicated functionality/controls, unrelenting tempo and steep learning curves, although as their own skill level improved they were not adverse to trying out more challenging games.

Within this sample of players two categories of female gamer - based on playing patterns rather then taste in games - emerged: occasional and committed. The occasional gamers spent little money on games, did not own a console or games, played less than two hours a week and played a limited number of favourite games. The committed gamer saved up to buy new consoles and games or obtained games through competitions and work connections (cost

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[10] A platform game is one where the player takes a character from the bottom of the screen up a series of ledges or platforms to the top whilst at the same time avoiding numerous obstacles placed in the way.

was still an issue for them), played for two hours or more per day and tended to play a wide range of games. They also went beyond their local social network and used the Internet to find advice and information. At the same time they rarely posted to bulletin boards or online discussions. For both occasional and committed females playing games was a domestic leisure activity they did both on their own and with brothers, sisters, boyfriends or male friends. Indeed these interviewees tended to prefer playing with someone else if that option was available.

Gender/technology relationship

As noted above, most of these interviewees were technically proficient and advanced users of ICTs, although not programmers. Some had struggled in secondary school to study more technical subjects (higher level physics and mathematics) and some admitted to being tomboys as children. While they felt they had grown out of their tomboy phase they were certainly aware that they were did not necessarily conform to standard essentialist feminine stereotypes in terms of their leisure activities and employment.

For interviewees the fact that men dominated their games culture was not a problem, indeed for half of them their workplaces were also dominated by men. What was an issue for them was the blatant design and marketing of games for men or the crude attempts to 'add-in' female characters into games designed around the main character being a male. While boys/men might be repulsed by games, which were clearly marketed and designed for girls/ women, it appears that interviewees expressed varying levels of annoyance at the presumption in much game advertising and game design that the player is male.

In the course of the interview interviewees were asked if they felt playing digital games was seen as a boy's pastime? Not all believed that it was, but they

did feel that many non-players viewed it as a boy's pastime, that many games were designed for boys/ men and that the advertising for these games, especially in magazines, specifically targeted men. Given that one of the girls worked in a games localisation company and two of them wrote game reviews part-time for irish-player.com they were exposed to a wide range of games they would not have played otherwise. As a result they were all were able to give examples of games which they would not buy and were clearly designed for men and/or portrayed women in a very sexist manner. For example the game reviewers were highly critical of new releases like *Dead or Alive Xtreme Beach VolleyBall* or *BMX XXX* which were promoted respectively for their realistic depictions of female breast movement and the stripping and lap dancing one gets to see as a reward for performing tricks on a bicycle. Even games many of these females enjoyed playing, like *Tomb Raider*, were criticised for the way they were packaged, marketed and the little titillating rewards offered on completion. In short, they felt that many games were designed with very masculine themes and tastes. While two of the girls did enjoy playing football games and most were tolerant of a degree of violence, they seemed most disturbed by condescending representations of women and blatant rewards which were clearly designed to fulfill particular heterosexual male fantasies.

At the same time there were games that allowed them the flexibility to explore worlds they were interested in and play, or create, multiple femininities and masculinities in a game. For one interviewee this meant creating a 'posh me, an independent me and a super-hero me!' For some females it was important to have the ability to choose a female character in a fighting game, especially if they were competing against a male friend. For others it was more important to pick the character according to their skill set, regardless of

their sex or the sex of the person they were competing against in the real world. It was clear that when their virtual character could not be changed the players tried to ignore their representation, something which interviewees elsewhere have called 'bracketing' [15]. Indeed, they noted that the design of the male game characters were equally as outrageous as the females in games, pointing to some awareness of the gender essentialisms built into many games. Once they were playing the game the gameplay became more important than the character design, a fact which Newman highlights [10].

CONCLUSIONS

While some attention is being given by the game development industry to including female game players into the games culture it would appear that much more has to be done at the level of the games and the advertising of the games before progress can be made. The console advertising strategies adopted by certain key players manufacturers are clearly insufficient. One of the problems is that these occasional branding campaigns, which are largely gender neutral, must be seen in the context of the many advertisements and games which are designed and marketed with a masculine and heterosexual male player in mind[11]. Perhaps one of the problems with these strategies is that the market research underpinning them is based on existing registered users and is not capturing the range of people who play digital games, especially females. Clearly there is a dearth of information on the number of females who play digital games, their attitudes and preferences. This invisibility means that gender is not adequately problematised by the industry and is only thought of in aspirational terms.

From an industry perspective it is clear that the design and price of a console and the range of games avail-

able on it can act to deter or attract consumers. There is nothing new in that advice. But it is clear that there is no single type of game preferred by these female interviewees – they were eclectic in their tastes and in their playing habits and clearly it would be very difficult to design a game which would cater for all of them, and they would not want it. When asked what kind of game they would design if they could, interviewees always referred back to games they had already played which indicates that they enjoy aspects of existing games. At the same time they wanted acknowledgement that female players existed and flexibility in games so they were afforded more autonomy.

Finally, despite the considerable sums of money spent on console advertising it would seem from these interviewees that if these females did not have access to a social network of people who gamed, in these cases a network which was offline, they would not have become digital games players. The age at which one is exposed to digital games may play an important role in the recruitment process given that all interviewees were recruited between the ages of six and twelve. Interestingly the dominance of males in these networks does not appear to have been an issue for the interviewees, these males were seen as supportive and an important source of 'expert' knowledge. So for these interviewees their games culture was private and domestic and they selectively filtered out situations, content and media which made they feel uncomfortable or unwanted. From an outside perspective they were largely invisible.

[11]Indeed consoles are sold as loss leaders and most of the profits gained by console manufacturers are obtained through game sales

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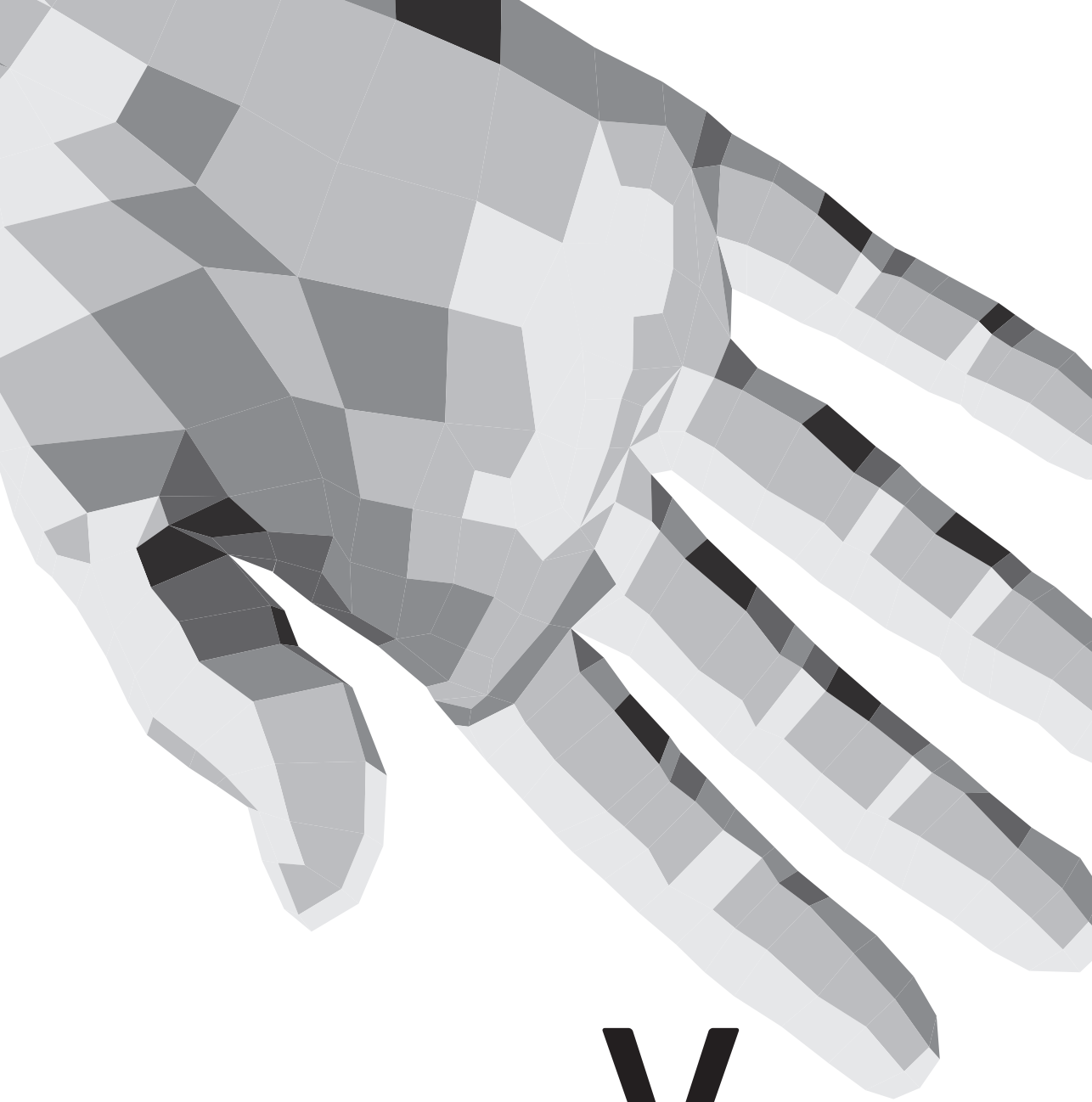
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Social
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23. EXPLORING CLAN CULTURE:
SOCIAL ENCLAVES AND COOPERATION IN ONLINE GAMING

Holin Lin

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ABSTRACT

Virtual online gaming clan organizations are used to ana-lyze social grouping and cooperation within competitive gaming communities. Participants from two popular massive multi-player online role-playing games (MMORPGs) in Taiwan were interviewed to collect data on the social dynamics of gamer networks in virtual worlds. Our essen-tial argument is that joining online clans involves costs and risks, yet the "law-of-the-jungle" nature of the gam-ing world and the interdependent role structure of most game designs encourage the formation of gaming groups. Players commonly establish clans consisting of individu-als from their off-line networks in order to reduce the risk of cooperating with strangers. A typical portrait of careless and vulnerable teenage gamers is found unsound.

KEYWORDS
Online game, MMORPG, clan, cooperation, network

INTRODUCTION

Multiple-player online games are community-oriented. As the backbones of successful online games, active player communities are now viewed as having high commercial value (Herz, 2002; Taipei Times, 25, July, 2003[1]), and are attracting increasing attention from researchers interested in the social inter-actions and group dynamics of artificial environments. Online gaming clans–self-emerging, self-organizing communities of online game players–provide some of the most interesting data in this regard.

In game worlds, players form groups to attack monsters, share treasures, and fight other clans. Accordingly, clans can be viewed as economic units in which players complete missions that are difficult to accomplish by individuals, or as social units in which characters interact while increasing their skill levels. However, even though clans may operate efficiently while performing collec-tive actions that require coordinated mobilization, clan membership rarely exerts true binding power on individual behavior, and many members remain complete strangers to each other. Considering that most clans rely on oral commitments from their members, it is surprising that so many maintain such high levels of stability and loyalty.

In this paper, we will analyze the social dynamics of online gaming clans from three perspectives: a) the motivation to form clans, especially in light of

[1] Taipei Times, PC Game Success A Rarity for Taiwan, by J. Ho. July 25, 2003, p.10.

growing evidence on the costs, risks, duties, and obligations of membership; b) the nature of cooperation among anonymous individuals in gaming situations that allegedly emphasize independence; and c) social interaction factors associated with youth gang culture.

Research Context

Taiwan's gaming industry has long understood the profitability of pay-to-play online games. Unlike video games, online role-playing games (RPGs) allow players to interact in virtual worlds that they create; these worlds continue to evolve even when participants take time off from playing. The ability to keep players hooked online and to establish and maintain active gaming communities are regarded as keys to success for game designers and managers.

Still, research on the social dynamics of gaming communities is still in its infancy, with the majority of studies focused on the issues of identity formation/transformation (Curtis, 1997; Turkle, 1995) and gender interaction (Danet, 1998; Deuel, 1996; Kendall, 1998) in social Multiple User Dungeons (MUDs). Further, by exploring social and adventure MUDs, Reid (1998) identified an embedded power structure in games between gods/wizards (designers/managers) and players. However, there are important differences between MUDs and such game-based online communities as massive multiplayer online role-playing games (MMORPGs). Unlike social MUD players, MMORPG players are influenced by game designs to compete with other players in task-oriented scenarios. Also, as competition levels grow in tandem, collective action becomes increasingly necessary for MMORPG success (in some cases, for simple survival). In virtual communities, competition and collective action stimulates social interactions and group behaviors in ways that are hardly observed in social MUD contexts.

Observers have noted that online gamers tend to play in small groups (Herz, 2002), which raises the question of why such players form clans that subsequently nurture unique MMORPG cultures. Some researchers prefer profiling the social lives of gamers in the context of shared-interest subcultures (Bryce & Rutter, 2002; Beavis, 1998.). We believe that there are additional, perhaps more sociological ways of approaching the "guilds" and "pledges" of online gamers that shape (and are shaped by) complex social network processes.

The average online gamer is very young (Fromme, 2003; Liverstone et al., 2001), and online game culture is therefore dominated by youthful ideas on friendship, competition, and community. On the other hand, the marginal status of adolescents and children in mainstream society also colors the ways that the general public views online gaming culture. The press and academic research are often attracted to the negative consequences of computer games such as violence (Herz, 1997; Goldstein, 1998; Russel et al, 2002; Anderson and Bushman, 2001; Fleming

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and Rickwood; 2001.) and addiction (Charlton, 2002; Griffiths, 1998; Kandell, 1998). The underlying assumption of these works is that adolescents are passive and uncritical consumers of computer games and their messages (Beavis, 1998). Young gamers are regarded as playing merely out of pleasure-making, and their behavior in virtual worlds is often seen as spontaneous events.

In addition to common interests, network diffusion is often identified as a nature phenomenon in the formation of online gaming communities. When explaining the frenzy in Korea over the Lineage game, an educational psychologist asserted, "If everyone you know plays Lineage, you have to play it" (Time magazine, 4, June, 2001[2]). It may seem a simple explanation to state that friends tend to play the same games together, but it appears to overlook the actual mechanisms through which such processes evolve. A closer look at how clans recruit members may show that "natural diffusion" has insufficient explanatory power regarding off-line networks.

In this paper, we will discuss how diverse groups of gamers create social enclaves in online environments and how rules and disciplinary actions are established to make cooperative activities possible. Primary research questions are: a) How are clans formed? b) What are the incentives for players to join a clan? c) What are the inclusive/exclusive principles of clan membership? and d) What are the mechanisms that make cooperation possible among clan members?

DATA COLLECTION

We looked at the social dynamics of clans arising from the two most popular online multi-player RPG games in Taiwan: Lineage (NCsoft, 2000) and Ragnarok Online (RO) (Gravity, 2002). [3] Our two primary data sources were interviews with online gamers and articles posted on bulletin boards (BBSs) and electric forums dedicated to the two games. We used snowball sampling to locate fourteen Lineage and RO gamers who were willing to be interviewed. Nine of the fourteen interviewees were Lineage gamers; six of the fourteen interviewees were experienced RO players. Only two of the interviewees were female, matching the general under-representation of female players in online gaming.

To ensure the heterogeneity of our sample and to build a greater understanding of online gaming clan culture, we tried to find interviewees from clans with different orientations, sizes, and member compositions. During our initial contact, we allowed potential informants to choose their preferred interview situation or location; seven of our discussions took place via MSN or Yahoo instant messaging systems or e-mail, and seven took place as traditional in-person interviews.

Articles posted on bulletin boards and electronic game forums were our secondary sources of data. Gamers use these boards and forums to exchange tips, share opinions, give support, and to offer advice on avoiding scams and managing clan business.

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[2] Time magazine, Where Does Fantasy End? by M. Levander. June 4, 2001, vol. 157, no. 22.

[3] By 2003, Lineage had been on the Taiwan market for almost three years, and now holds the number one position in the local online gaming market. RO has given

Lineage strong competition since its release in August, 2002. One year later, the Taiwan distributor for RO claimed that the game's market share had surpassed that of Lineage, but this claim has yet to be verified.

GAMES AND CLANS
Local Lineage and RO Contexts

Lineage is a Dragons-and-Dungeons type of fantasy game whose players take on the personas of knights, wizards, elves, and members of royal families as they move through a world filled with adventure, treasure, monsters, and other challenges that must be met in order to increase their skill levels and earn virtual rewards. To gain control of castles that dot their virtual world, Lineage players fight each other as members of teams or clans headed by clan masters. Victors levy taxes upon the virtual villages they control, and dun fellow gamers a percentage of every online weapons sale. In Asian countries, the Lineage frenzy has resulted in a booming black market of products that blur the line between virtual and real worlds. Players exchange real money for virtual treasures or game currency (Taipei Times, 25, July, 2002). [4]

In RO, players start as novices with no special powers. As characters reach the highest novice level, they are given a choice of six occupations: swordsman, thief, acolyte, magician, archer or merchant. Each occupation has its own game settings, but the characters' goals are essentially the same: to buy and sell items and use available money and equipment to defeat monsters in order to earn experience. Figures released at the end of August, 2003 show an estimated 1 million Taiwan residents of a total population of 23 million with active Lineage accounts; the record for concurrent online players

is approximately 180,000 (China Times Express, 25 August, 2003[5]). The estimated number of RO subscribers at the end of July, 2003 was 1.8 million.

Clans

In online gaming worlds, clans exist as self-emerging player organizations. Lineage clans are known as "blood pledges" and their RO counterparts are called "guilds." We will use the general term "clan" to refer to both types. According to the official Taiwanese websites for the two games, there are currently 450,000 Lineage clans and 7,610 RO clans.[6] The smallest ones may have 3-6 members, the largest ones hundreds of members. [7] For complex actions such as castle sieges, competing parties need as many helpers as possible, and alliances are made and broken among clans of various sizes; some clans have gone so far as to organize last-minute recruitment programs or to hire mercenaries to increase their power. Other clans temporarily organize themselves into subgroups for the purpose of performing less challenging tasks (e.g., defeating certain classes of monsters). Outsiders are sometimes invited to participate in these task-oriented, short-term projects, but it appears that most clans prefer creating teams that consist of established members.

Clan masters have complete power to accept or reject new member applications. Each player can activate three characters, and individual characters can only belong to one clan at a time. After joining a clan, a player can have a nickname showing above his or her avatars on the screen and use the exclusive chat line

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[4] In September, 2003 the exchange rate for New Taiwan Dollars to Lineage Dollars increased from 1:1000 to 1:1500.

[5] China Times Express, Lineage II is about to release, by Lee, Y.C. Aug 25, 2003.

[6] However, the number of RO clans is underestimated, since they are not required to register with the official website.

[7] In Lineage, the allowable number of clan members was limited to only 40 until April 30, 2003. Since May 1, Lineage administrators have started giving permission for

gamers to form much larger clans, and are helping gamers to document the relationships of various affiliations.

to talk to members of the same clan. Members are also given access to clan-owned warehouses for storage. More sophisticated clans have their own virtual accommodations for socializing, resting, and working on fighting skills.[8]

RESULTS AND DISCUSSION

The vast majority of online gamers have belonged to at least one clan at some time. According to an unpublished survey of Lineage gamers that we conducted earlier this year, only 5.7% of 493 respondents stated that they had never belonged to a clan. Data collected via the interviews we conducted for this report show that most gamers feel a need to join a group in order to benefit from the various kinds of support they offer. Several interviewees expressed a desire to belong to a clan because of the "law-of-the-jungle" feeling of game worlds and the interdependent structure of game design.

The Need for Cooperation and Protection

The majority of our interviewees used such terms as "dark world" and "a world that makes you lose faith in humanity" when describing gaming environments. They claimed that playing any game alone can be unpleasant or even dangerous, especially for newbies. The most frequently cited example is treasure that is stolen by onlookers after a character single-handedly defeats a monster. Inexperienced players are frequently the victims of fraud. Weaker characters can be bullied by stronger ones, often for no discernible reason. Being victimized is bad enough in

any game, but the real cash value of virtual goods in these two games makes these situations even more unpleasant. Thus, inexperienced players are happy to find more experienced comrades to show them the ropes and to back them up against bullies. Membership in a strong clan is thus viewed as a means of self-protection.

Acting as a solo player can be frustrating in other ways, since access to the more interesting adventures only comes after a character reaches a certain level. Without the required capital and equipment, a character may find it very hard to move to the next level of play. As one interviewee told us, "In *Lineage*, monsters are hard to beat and money is hard to earn." New characters need guidance and gifts from experienced gamers, who in turn need support to achieve certain MMORPG goals—for instance, defeating some of the more challenging monsters. The interdependent structure of both games requires group action. *RO* characters have different attributes and special abilities: swordsmen are slow yet effective fighters, archers are fast but vulnerable, and acolytes are weak physically but have healing powers. In *Lineage*, members of royal families are weaker than all other class characters in every specialty, yet they are the only ones who can establish and lead a clan.

Differences in role specialties make surviving without help a difficult job for any role a character plays, and many tasks in game require cooperation of varied

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[8] Players can recover their competitive power more quickly in a clan house than in wild.

roles further strengthen the need to conjugate. Castle siege is a typical case of game designed to facilitate collective actions by gamers. To siege a castle, or to defend one, is a massive project requires cooperation by a combination of hundreds of different role characters. This interdependent structure built into the system motivates gamers to form clans and act together. These designs in system and "law-of-the-jungle" nature in gaming world provide strong incentives for social grouping among gamers.

Risks of Cooperation

Joining a clan and cooperating with fellow clan members can be costly and risky. Members are held to certain obligations, and helping or chatting with other members can be very time-consuming. Group fights arising from disputes between clans and outsiders can cause severe damage to characters.[9] For some Lineage gamers, even the "ultimate clan goal" —a castle siege—is a dubious enterprise in terms of costs and benefits. In addition to requiring extensive planning and a huge capital investment, participants are at high risk of getting hurt in battle. Basic water and blood supplies for supporters can cost as much as 10 million Lineage dollars;[10] salaries for 200 mercenaries who took part in one siege was 4 million Lineage dollars. If the attacking clan succeeds, the profits can be generous. However, the chance of success in the first few attempts is slim. One interviewee told us that 10 members of a clan that she belonged to decided to leave their group rather than take part in a questionable siege.

Offering assistance to fellow clan members can backfire. We heard many stories of thefts and scams involving money and coveted virtual weapons. Our interviewees shared many stories about cheating, betrayal, and espionage. Lending valuable equipment to fellow members is a difficult decision for many, since recipients sometimes hold on to the equipment beyond the agreed-upon time period, or in some instances, refuse to return it. Some members who lost items that they borrowed did nothing to compensate the original owners, nor did they even offer apologies.

The most common disputes are about dividing treasure, collectively owned equipment, or collectively obtained valuables. Since participating characters differ in terms of experience and contributions, the issues of entitlement and the size of shares can become very complex. We heard numerous complaints about members who reaped profits without doing anything to earn them, about greedy players who refused to share captured items, and about cowards who abandoned difficult missions. Stealing treasure accumulated by others via the completion of arduous tasks was perhaps the greatest source of discontent.

An important difference between the two games should be noted here. When a monster is slayed through a collective effort in Lineage, the resulting treasure is immediately transferred to each participating gamer; in RO, the treasure falls to the ground, where anyone can pick it up—including outsiders who

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[9] Fighting can cause health and economic damage to individual characters. Wounded players must buy magic potions or experience value to recover. Furthermore, they run the risk of losing equipment.

[10] Approximately US$290.

did not participate in the slaying. In Lineage, no one knows exactly how much each participant gets, unless they decide to discuss the issue openly. This design feature underscores the importance of trust among Lineage gamers.

Reducing the Risk of Cooperation

Reciprocal supportive relationships are expected among clan members, for reasons of social norms and economic rationality. Loaning equipment that is not in use helps the clan become stronger, which benefits everyone when larger rewards are earned and distributed. But if a clan suffers from too many "free-riders," the risks of lending will become too high—that is, a sense of unfairness may grow to the point that healthy interactions and basic operations are damaged. For this reason, most clans feel compelled to develop mechanisms for securing trust and reducing risk.

The most important mechanism in this regard may be the creation of online networks based on existing off-line social relationships among core members. In Taiwan, the vast majority of these social networks revolve around the players' schools, with core clan members mostly consisting of classmates, friends from the same school, and siblings and neighbors. For the most part, online clan members with no off-line connections to the original members hold marginal positions. However, clans that do not take online members tend to make exceptions for special campaigns, or when a large number of members have conflicting schedules.

Most of our interviewees argued that online strangers in the game world should not be trusted, and that off-line "real contacts" are much more reliable in terms of potential clan membership. While this may seem obvious on the surface—off-line members are naturally more inclined to enjoy a range of leisure

activities with each other—the online replication of off-line networks holds considerable meaning. The rational principle underlying the overlapping of networks is that off-line relationships are more likely to guarantee a mechanism for tracking down perpetrators of fraud, theft, and other online infractions, thus reducing risk and minimizing potential damage. The whole point of such mechanism is not only to reduce the chance of risk (by having reliable friends as fellow partners), but also to minimize the possible damage caused by it (by tracing the person for compensation). As a Chinese saying puts it: "A monk can run, but not the temple he belongs to."

Distinctions between online and off-line relationships raise many questions regarding trust. Several interviewees emphasized the risk of not being able to retrieve items that they loan out. One in particular made it very clear that he would only make loans to online friends who were willing to share their verifiable real-world addresses. This sense of traceability is increasingly becoming the standard for extending online trust in game worlds. Still another clan (more oriented toward engaging monsters in combat) has enforced a ban on equipment loans so as to prevent all potential conflicts; violators risk expulsion. In other words, off-line connections are welcomed because they are easy to locate should any problem occurs. And this friendliness can be extended online if online friends can provide similar sense of traceability.

The master of a 76-member clan gave us a detailed explanation of how the trust-securing system works. All 75 members have off-line connections with the clan core—no strangers or online friends allowed. During our interview, he described his clan's membership qualifications:

'Our rule on connection is this: either I have to know the person directly, or there can only be one

person between the would-be member and me, just to be sure that we can find the person direct-ly via one member. This way it's convenient and won't get too complicated.'

Why?
'If the connections are too remote, the person may just disappear after doing something bad, and we won't be able to find him . . . Since every-body knows each other, if anything happens, the one who introduced this member to the clan is responsible for finding him.'

The clan master's description is one of a ripple-like pattern of resource allocation and job assignment. Smaller member numbers mean a higher percentage of direct connections to a master or to core founders. The same interviewee told us, "The first thirty mem-bers are fine; they take care of each other." Those 30 members get the largest shares of any pie that needs to be distributed. During collective missions, core members are the only ones entrusted with such crit-ical roles as magicians. By placing more resources and obligations into these trusted hands, risks attached to cooperation are reduced in a virtual orga-nization.

Rules, Discipline, and Punishment
The second most important risk reduction mecha-nism is the combination of punishment and discipline. The threat of discipline from social relationships has a preventative effect. Additional rules and punish-ments—e.g., expulsion—allow a clan to control the actions of its members and the potential negative effects of dealing with strangers. For clans with large online memberships, these mechanisms are consid-ered necessities. One interviewer's pledge does not exclude outsiders who have no acquaintance with a certain member. The size of his pledge is quite big, its members seldom conduct large-scale, high-risk, and potentially profitable operations, thus reducing the need to ask for large time commitments from core groups of trustworthy comrades. On the contrary, the primary activities of the members are chatting with each other and defending the castle in return for pay from the master. This type of clans resembles large bureaucratic systems.

Another interviewee's pledge, on the other hand, is a monster-beating-oriented clan, and it sets a rule that a member is not allowed to lend or borrow equipment to another so as to prevent conflicts from happening. Anyone violates this rule will be expelled. Based on our observation, a clan open to strangers either suf-fers no problems caused by trust or relies on strict discipline and severe punishment.

Balanced Exchange Relations and Gang Culture
Social interactions in online gaming communities generally reflect a mix of economically rational exchange patterns and adolescent gang culture. Exchange relationships among gamers are generally balanced, with clan member obligations usually cor-

responding to the degree of entitlement. Gift exchanges are mostly limited to small items of marginal value unless the two parties have a particularly strong relationship. For the most part, powerful clans do not accept members who have no immediately useful skills, and skillful characters tend to avoid joining weak clans.

On the other hand, it would be too simple to summarize resource exchange and social dynamics in online gaming worlds as calculated behaviors in response to economic incentives, since influences of social role expectations on character behavior are also evident. The clan master role is an interesting example of social expectations. In Lineage[11], living up to the social expectations of a clan master/member of royalty requires the mentality of "taking care of one's people" that extends beyond purely economic calculations. According to our observations, some clan masters enjoy the responsibility of being a good leader so much that they are willing to sacrifice a great deal of time and wealth to support their followers. Such popular works as Lord of the Rings provide role models and cultural scripts for interactions between clan masters and their supporters—with both positive and negative results. When one inter-

viewee was asked why he obeyed a weak, unreasonable clan master's orders, he replied, "because he is the King, and this is the culture of the story!"

Finally, we observed a number of similarities between gang culture and online gaming clan culture—for instance, the exclusivity of social interactions and occasional fights between clans. We heard stories of unprovoked killings of outsiders by clan members, and claims that when a fight occurs, clan members immediately join in without asking questions. Heroic behavior is considered admirable, and running away from a group battle is considered cowardly. Group awareness and an emphasis on solidarity are also remindful of gang culture, although without the same degree of criminality.

[11] In Lineage, clan masters are exclusively reserved for the royal class.

CONCLUSION

We gathered data on clans organized around Taiwan's two most popular online games to investigate their compositions, operations, social dynamics, and inter-active cultures. Our primary findings are:

1. The primary reason why clans emerge from online gaming environments is not for social purposes but for character survival and game success. The basic design of all local MMORPGs makes collaboration a necessity, since slaying monsters or capturing cas-tles are impossible tasks for solo players. Game managers and player cultures have combined to create a "law-of-the-jungle" atmosphere in the online gaming world, in which single characters are bound to confront dangerous and frustrating situa-tions. As committed groups dedicated to providing mutual support for successful gaming, clans may be considered an adaptive survival strategy.

2. Exchanging favors and resources has its own set of risks, especially when the same resources have value in the physical world. To reduce potential risk and damage, online clans are generally rooted in off-line social networks; however, overlapping online and off-line networks should not be considered just a ready extension from an existing off-line community to an online game world, because considerable ratio-nal calculation is involved in the process. Many online organizations restrict outside membership to the friends of core members (in some cases, intro-ducing potential members to the world of a particu-lar game) in order to avoid the risk of filling a clan with online strangers. Limiting online membership to acquaintances once removed from a clan master also ensures that online rule violations can be effec-tively addressed off-line, resulting in effective dam-age control.

3. The mainstream cultural narrative concerning video games views them as sources of addictive behavior leading to negative consequences. We found that teenage online gamers have developed various mechanisms to cope with complex interper-sonal interactions—both among game characters and the individuals who control those characters. They carefully evaluate risks and benefits to avoid being cheated, and lower their expectations of strangers in a manner that we considered very practical. This finding resists the questionable portrait of teenaged gamers being restless, careless, and vulnerable. We consider these images to be false stereotypes.

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24. POWER GAMERS JUST WANT TO HAVE FUN?:
INSTRUMENTAL PLAY IN A MMOG

T.L. Taylor

ABSTRACT

In this paper I explore a particular slice of massive multiplayer participants known as power gamers. Through my ethnography of EverQuest, as well as interviews with players, I analyze the ways these participants, who operate with a highly instrumental game-orientation, actually facilitate their play style through a variety of distinctly social activities. Rather than seeing this segment of the gaming population as "lone ranger" figures or via various other "geek gamer" myths, this work explores the way high-end players are actually embedded in deeply social structures, rituals, and practices.

KEYWORDS

Massive multiplayer online games, MMOG, EverQuest, socialization, styles of play, player typology, power gaming

INTRODUCTION

While there is a growing body of literature on massive multiplayer online games (MMOG) it has typically focused on a generic player. Given the newness of the field this kind of homogeneity is understandable – the terrain has been getting a basic mapping and so fine-grained distinctions had not yet emerged. Earlier work however by people like Bartle [2] provide some indication that not all players are the same. He proposes that there are a variety of different types of activities people prefer do in MUDs (though the theory is often used for other games) and that we can characterize such players through a basic taxonomy. His now oft-repeated categories – killers, achievers, socializers, explorers – form a continual basis for discussions of player types. While such distinctions are often overstated as complete archetypes, it is worth exploring the different kinds of styles of play users engage in.

The notion that people play differently, and the subjective experience of play varies, is central to an argument that would suggest there is no single definitive way of enjoying a game or of talking about what constitutes "fun." I would argue we need expansive definitions of play to account for the variety of pleasurable labor participants engage in (see [9] for further discussion of the multiple pleasures of games). Suggesting that games are always "fun" (and then in turn endlessly running after the design of such) is likely to gloss over more analytically productive psychological, social, and structural components of games.

One of the most interesting distinctions I have found in my research on MMOGs is the difference between the casual and power gamer. Both terms are likely to evoke a kind of stereotyped figure. The casual gamer is often seen as someone "with a life" who invests only moderate amounts of time in a game while the power gamer appears as an isolated and socially inept player with little "real life" to ground them. For the most part dialogue about the types rests on unproductive rhetoric and tells us very little about styles of play and what brings people back to a game over and over again. It dichotomizes and oversimplifies the much more complicated social experience of each category. In this paper I will, using ethnographic and interview data, focus on power gamers and try to provide some initial thoughts on their style of play and identify ways in which they participate in a kind of social labor and collective knowledge production.

TYPES OF GAMERS

The question about styles of play and gamer types is an old one and debated in both designer & player communities. There are often a normative aspects to such divisions, as in, for example, the "roll player, power gamer, or munchkin" frame. In each of these the player is seen as perverting a pure gamespace by distorting some aspect of play (too much hack n' slash, loot greediness, under developed characters) or by taking advantage of the game design itself (through loopholes and actions not intended but nonetheless not prohibited by the system). In an article at the *GameGrene* website entitled "Just Say No To Powergamers" the author suggests that such players ruin role play games by their insistence on being as powerful as possible and "see[ing] no other purpose in the game besides winning" [1].

While some put the blame on the system, the designers, or the game master (suggesting that the structure of a particular game may produce this kind of

behavior) others hypothesize it is an unethical choice on the part of the gamer – they are not playing fair or "right." Some suggest power gamers are inclined to cheat more readily, as one person I interviewed said of a high-level *EverQuest* (*EQ*) guild, "They were not interested in playing by what was basically the rules. They realized the disadvantage they were at by playing by the rules so they just bent them." Or the other who said, "I'm not that much of a power-gamer, I still go by the rules." The notion that power gamers are out to spoil everyone else's fun or that they are inclined to cheat more frequently looms as a stereotype in the player community. But what if we untangle the specter of renegade players set on cheating from the more general category of power gamers and consider this style as a serious play strategy in which typical notions of fun and pleasure are complicated? How might our understanding of the nature of play be extended if we take the power gamer as a legitimate participant in game space?

Power gaming

Rather than write power gamers off as simply cheaters I propose they actually constitute a group who play in ways we typically don't associate with notions of "fun" and leisure. In worlds like *EQ* they are often juxtaposed to the role player:

> There are people that play for the role play aspect who say 'thus' and 'forsooth' a lot [...] and then there are people who have their statistics and what's best for advancing their character (EQ player).

In querying players for their definition of power gaming the comparison with role players and casual gamers often emerged. In *EQ* role players are seen as people dedicated to the backstory and narrative structure of the world. They game *through* develop-

ing characters, alliances, and plots (though it should be noted that there is no formal mechanism in the game for rewarding this activity and it has little part in actual leveling). Casual gamers, on the other hand, are likely not developing elaborate backstories for their character or following plot. They may change characters frequently, level more slowly than some, and focus on doing quests or skill development. Though they can be involved in guilds they are often of the "social" or "family" sort. In *EQ* casual gamers may never attend a high-level raid or even visit some of the zones in the game. Despite playing with varying degrees of regularity they nonetheless find the game engaging. They are often perplexed by the power gamer however, as one interviewee mused about the comparison,

> They [a guild of power gamers] did things I would just consider ridiculous like getting three or four accounts or having a group that was just them [one player playing multiple characters, essentially grouped with himself] and level themselves up and get items for themselves. I have lots of hate for the powergamers. I think like, for me I felt I played the game a lot, 4-6 hours a day, almost the equivalent of a fulltime job and I couldn't keep pace with the powergamers cause they were on 10 hours a day.

This sense that somehow power gamers are just *too* dedicated, almost bordering on the (psychologically) pathological, is a popular theme. What I found striking in conversations with *EQ* power gamers however is that they actually consider their play style quite reasonable, rational, and pleasurable. There are several qualities to the approach that emerged: a focus on efficiency and instrumental orientation, dynamic goal setting, commitment to understanding the underlying game systems/structures, and technical & skill proficiency. I would

suggest that one of the reasons power gaming as a style occupies a kind of "othered" space in games is that it appears to operate directly counter to an understanding of fun and leisure. The kind of activities and orientations power gamers bring to games often look more to the outside world as work and this leads to a much broader ambivalence about what constitutes legitimate play.

Efficiency and Instrumental Action

One of the most notable characteristics of the players I observed and spoke with was the fundamental adherence to a kind of focused cause/effect model of game involvement. Power gamers in *EQ* are particularly attuned to making the most of the time in the game and undertaking actions to produce efficient reward paths.

> [I'm] more what you might call a power gamer. I look at EverQuest as the numbers. If you do this you'll get this, this is a better combination, you'll have a better chance to kill. That's all it is for me - to see the new stuff and do the new stuff and find the new stuff.

One player described how knowing the best, most efficient way to play was central to success, especially at the high-end game. The game is seen as a problem to be broken apart and solved. Working out solutions and strategies with a kind of focused intent then becomes central – "Efficiency is probably they most important word [for a powergamer]. Leveling is all about efficiency." Of course, you can level without this kind of orientation to be sure but power gamers structure actions in terms of productive or wasteful strategies. In comparing how a casual gamer approaches the issue of in-game items which provide the wearer with beneficial properties and statistics, one power gamer says,

'If you want to be the best you've got to get everything to mesh. You can't have "Oh, this is the best item from this guy, this is the best from this guy." You have to say "I have 47 points to get to my current cap [point limit]. How do I get that based on what drops what?"'

This kind of intentionality extends to all aspects of play, even failed encounters and mistakes. One player I spoke with suggested that average players don't confront failure as a learning opportunity in the same way power gamers do saying, "When we die we say 'What went wrong?' and try to understand what happened." While it is certainly not unusual to hear even casual gamers talk about trying something a few times to "get it right" the level of attention power gamers give to understanding mistakes is notable. What are often viewed as the best player-guides tap into this impulse with their rich accounts of how to handle a monster (an non-player character entity, also known as a "mob") or zone, specifying down to the very pacing of the encounter how to proceed. In high-level guilds where there are often significant concentrations of power gamers is it not unusual to see extremely detailed recountings of failed and successful strategies in new zones or with new mobs. This willingness to critically examine others, let your own tactics be reviewed, and repeat encounters until you succeed distinguishes the power gamer from the more casual one who may move onto a different location after several unsuccessful attempts.

Dynamic Goal Setting

As is probably clear from the above quote and scenarios, the focus on efficiency is typically driven by the "desire to be best." In a game like *EverQuest* this goal is particularly tricky given the ongoing expansions which increase level caps, the diverse race/class structure which produces varying skill sets, and the variety of arcana one might master. Nonetheless

what distinguished the power gamers was their constant engagement in dynamic goal setting and the focused attention to achieving them. Goals can range from gaining levels to securing particular weapons and armor, killing particular monsters, gaining admission to a specific guild, getting special skills, and exploring difficult zones. As many *EQ* players comment, the game never ends so you have to be self-directed in how you progress.

What was striking to me was the willingness of power gamers to go through very hard work to achieve their goals. It was not the activity itself that became the measure of "fun" but the possibility for success that pushed them forward. One player recounted a fourteen hour session to reach level 50. By the last few hours he found himself going "snowblind" and yet pressed on. When I asked if he had enjoyed that evening, he replied, "I'd still rather be doing that than other things. This is my goal, it's going to be fun when I get there. It's the grind sometimes but then you get there." In *EQ* players of all levels often talk about "the grind" which is the experience of going through often painfully boring or rote gameplay with little advancement. Everyone knows and accepts this is a (flawed) part of the game but the threshold for tolerating it varies widely. Power gamers seem willing to endure much more than many other players and are particularly adept at breaking down the game to meet their personal goals (which they are constantly revising and developing) as they progress. As one player put it, "These individual goals you set determine what kind of player you are. I want to be 50. I want to be 50 first. I want to be 50 in three weeks. How am I gonna do that?"

Game Structure Knowledge:
History and Experience

It is important to keep in mind that all participants in a game come to it with some history of play. They

may only have played board games or may have extensive FPS (first person shooter) or Live Action Role Play (LARP) experience. They may have never played on a team and only against the computer. In the case of power gamers I found that they often drew from a much broader base of game knowledge as a way of advancing their play. In the most basic instance there may be game commands that are transferable. *Star Wars Galaxies*, for example, has added an interesting feature in actually allowing players to select an *EQ* keymap so as to minimize the time it takes to learn how to execute basic actions and gestures. Some *EQ* players were likewise familiar with the game's structure based on their previous experience with MUDs.

Beyond these interface considerations however are the ways games in effect teach players to *be* gamers in a general sense. As one player put it, "*EverQuest* was training for *Dark Age* [*of Camelot* (DAoC), another MMORPG]." This same player was also previously a player of *Quake*, *Unreal Tournament*, and *Halo* and suggested his experience in these games provided him useful information for "how people move" in *DAoC*. Power gamers seem particularly adept at creating transferable knowledge between games (and conversely realizing the limits of such an endeavor based on how unique the game is).

This kind of general game knowledge of course gets rooted in figuring out the particularities of each system and the specific mechanics at work. Power gamers often push systems to their limit by trying to "break" them or find points at which the game architecture is internally contradictory or malleable. In many ways it is these kinds of behaviors that get seen by the broader game community (and quite often the administrators) as looking far too similar to cheating. But power gamers generally see these kinds of explorations into the dynamics of the game

as simply smart moves – that only by understanding the constraints of the system will you be able to most effectively play. How do mobs path through a zone and what is the most efficient route to take when fighting them? What are the rates of respawn on a particularly rare monster and what triggers that process? How do different spell combinations work in breaking up a tough group of monsters? What happens when I do this? Or this? As power gamers work and rework such questions their knowledge of the game can almost at times appear *too* good. They seem to understand how things work at a level the average player does not quite grasp. Given the gap in understanding how power gamers actually play this kind of knowledge sometimes gets labeled negatively, as cheating or trying to exploit the system.

This type of activity is actually one of the first instances in which my account of power gamers differs from Bartle's consideration of the "achiever." In many ways the achiever fits the mold of the power gamer with the attention to goals. He however suggests that for achievers, "Exploration is necessary only to find new sources of treasure, or improved ways of wringing points from it" [2, p.3]. By contrast he posits that "Explorers delight in having the game expose its internal machinations to them. They try progressively esoteric actions in wild, out-of-the-way places, looking for interesting features (i.e. bugs) and figuring out how things work" [2, p.3].

In my discussions with power gamers I have found that this line is not so clear. Certainly there is a goal behind the kind of system exploration that power gamers engage in but it does not seem to have quite the "(sigh) only if I have to" quality Bartle hints at. Indeed there seems to be a kind of pleasure attached to mapping out such mechanics and responding to them in creative ways. While detailed explanations of effective strategies (the outcome of "explorer"

labor) on the one hand serve a very functional purpose in sharing knowledge so others can replicate a tactic, such rich recountings of strategies also seem to mark a kind of pride and pleasure for the power gamer. It is also the case that power gamers may refine strategies of others, seeking increasingly esoteric (but more efficient) methods of play. Indeed in a game like *EQ* power gamers cannot simply be crude achievers but seem to require a fairly complex set of exploratory skills... and even enjoy them.

Technical & Skill Proficiency

The final category that is worth mentioning is the role technical proficiency plays in the life of a power gamer. While *EQ* is a fairly straightforward game, requiring little technical know-how (often this is seen as contributing to its popularity with a fairly diverse audience) there are certainly higher degrees of technical engagement players can deploy. The use of elaborate macros or remapping keys is one way power gamers often streamline their sessions for maximum efficiency. While the average player may not either know about or take the time to learn how they might "script" an encounter, power gamers often spend time distilling down essentially strategies or customizing the game (through keyboard mapping) in a way that makes their play more tuned to their unique style. They do not just accept the interface but alter it to suit their methods.

Another common practice amongst power gamers in *EQ* is what is known as "2-boxing." Quite simply this involves playing multiple characters simultaneously on two machines. There are players who extend this even further with 3-boxing being not uncommon (though it should be stated that generally the additional characters are not quite as active as the primary one). Before *EQ* was allowed to run in a windowed mode this might additionally mean using a hack program such as *EQWindows* to allow for several instances of the game on one machine (though this was less common than using separate computers).

Beyond actually playing multiple accounts power gamers have deployed tools like *ShowEQ*, a program which runs on Linux that gives a detailed accounting of any zone including what mobs are present and what they holding, a listing of exits, and a listing of other players. *ShowEQ* is certainly one of the more debated "helpers" for the game (often seen as a cheat) and it is by no means that case that all power gamers use it (or even see it as ethical to) though it is more likely to find this type of player relying on such a program (especially given it requires some knowledge of Linux to set up).[1] In general this kind of active engagement with the technical constraints of the system seems to be another notable feature of the play style of power gamers.

It should be mentioned that the very definition of what a power gamer is remains quite open and debated in the community. While I have tried to give some key areas that were repeatedly reflected in my discussions and observations, I do want to note that the

[1] One interesting exception I found to this was a player who considered himself "almost" a power gamer. He saw his use of *ShowEQ* as a way of competing with power gamers, saying, "It allowed me to do something sort of passively that allowed me to level the playing field. It's such a good tool, everybody would love to be running it I think."

distinctions can be endlessly refined. One final consideration often remarked on is the amount of time a player can spend in *EQ*. Some people contend that power gamers are simply the people who devote endless hours to playing. One player, the founder of one of the uber guilds on an *EQ* server pondered this, saying,

> I think there are two kinds of power gamers: [A] power gamer is a gamer who knows the system and plays for the goal. Doesn't play to explore. He plays to reach some goals and that's why he's a power gamer cause he goes straight in for the goal. Level fast, goes very fast for that goal. People around him fall behind and that's why they think he's a power gamer cause he knows the game system, knows all the stuff and just wants to get to his goal. So that's one power gamer. The other power gamer is how much time you spend. The common power gamer spends a lot of time as well. What is a casual gamer that plays like a power gamer? Is he a power gamer or a casual gamer? The guy who logs on and knows exactly what to do but doesn't log on everyday. I don't know what to call that guy. I still think he's a power gamer. I mean, the time invested isn't really about power gaming but really about... uber gaming maybe. Uber gamer maybe [laughter about this distinction].

I have been struck by how many casual gamers play for an equal number of hours with very different results. Despite hours of play they do not level as fast, gain (as many) rare items, or accomplish other high-end activities of note. This seems to suggest that it is not simply a matter of time but orientation.

THE MYTH OF THE ISOLATED GAMER

With this description of power gaming in mind it could be easily imagined that the type of player engaged in this style is quite isolated, grinding away with a kind of hyper-focused efficiency out of sight from other players. While there has been a bit of work done on first person shooters that taps into some of their sociological aspects [7, 8, 11], I argue that MMOGs as a genre, and *EverQuest* in particular, actively facilitate the production of a very particular power gamer identity which problematizes often individualized notions of play. *EQ* power gamers are distinctly social players, although at times such sociality may not "look" like what we see in casual or role-players. Nonetheless they are typically linked to both informal and formal social mechanisms which facilitate their play.

As Mikael Jakobsson and I have noted in previous work, *EQ* is an game in which success can really only be gained (especially at the high-end) through a reliance on social networks [5]. Players not only socialize in the simplest sense (through chatting and hanging out in the virtual world) but form complicated systems of trust, reliance and reputation. Play in *EQ* is grounded in the production and maintenance of social relationships and larger organizations like guilds. These kinds of connections are no different

for power gamers and in *EQ* they are certainly not the "lone ranger" figures one might think.[2] The reliance on, and involvement with, social networks and resources – web information and bulletin boards, guilds, and off and online friendship networks – indeed reveals power gamers to be some of the most socialized players in MMOGs.

Community knowledge

Games like *EQ* can prove particularly daunting to a new user. With the wide variety of locations and monsters, the reliance on statistics (each character has a designation of points in categories like intelligence, strength, charisma, etc.), large numbers of armor and weapons (all with their own statistics that modify the player), and spell/combat strategies a player can very quickly feel like killing rats simply isn't enough to master the game. As a response to this complexity a broad knowledge base grounded in the community has developed in conjunction with the game. Jakobsson notes that the very boundaries of the game can be seen as extended through such sites. He suggests, "It is very hard to imagine a game like *EQ* without all the resources on the web helping players with maps, information about spells, equipment, etc. From the players point of view these websites are an integral part of the game itself" [4].

Detailed information about the game and play strategies can be found at a multitude of websites dedicated to *EQ*. Players can visit places like *Allakhazam* or *Illia's Beastiary* and find enormous amounts of detailed information about items, monsters, and zones. In addition there are numerous websites dedicated to particular classes, such as *EQNecro* which details a variety of strategies and tips for playing a necromancer in the game. Finally, guilds (especially high level "uber" ones) will keep detailed records of tactics, items, and raid encounters which members will regularly consult.

Power gamers are active visitors and contributors to these kinds of sites, especially in terms of their own guild pages. They will often daily make the rounds visiting their key sites to get information and strategies. As one of them put it, "We have these goals, and we go onto those websites and see what people got on other servers and what we want." This kind of labor is a collective collaboration in the production of valuable game knowledge and presents a fascinating example of player sociality. While the casual gamer may visit a map site on occasion or peruse a bulletin board sometimes, power gamers are regularly consulting, disputing, refining, and building knowledge through the more formalized mechanisms of websites and bulletin boards.

Friendship networks

While one type of social play coordination occurs through websites like those mentioned above, at a more basic level knowledge about the game and tactics are distributed through peer and friendship channels. Interestingly these information networks regularly cross off- and online boundaries. One play-

[2] Indeed, in some cases the "mafia-like" quality of the high-end game is even more pronounced than for lower levels. See [5] for more on this comparison.

er I interviewed talked about how for him playing was intricately woven into his offline relationships with his dorm-mates. His ability to be a power gamer was supported by a kind of supplemental processing with this "real world" friends:

> We'd play for a couple of hours and go to the dining hall and be talking about it and go to class and be talking about it. It's a pretty con-suming game. A lot of the game was items so we were talking about items we wanted to get and stuff like that. And some of it was stuff that hap-pened. The adventures. Since we're on a PvP [player versus player] server it was a little differ-ent. We'd talk about the encounters we had with other people.

This player went on to describe how he had access to several of these friends' accounts at various times which aided him moving his character around, doing item transfers, and various other game tasks. The benefits of swapping strategies and sharing knowl-edge (and accounts!) cannot be underestimated in a game like *EQ*. This kind of sociality and group reli-ance was certainly intentional on the part of the designers [5] in terms of game play but it is fascinat-ing when it also occurs outside of the boundaries.

In addition to the ways offline friendship networks support power gaming in-game relationships also develop which become important tools for play. The social networks of power gamers are incredibly important at a couple different levels. The first is a very basic need for interaction. In talking to players I noticed how often they referred to strategies they employed for making through the "grind" parts of the game. One said, "Killing the same monster for four hours and not do[ing] something else is very boring. So if you don't have someone to talk to or something else to do you'll go crazy. You needed to chat if you wanted to get level 50." While some power gamers will watch television or read during these periods, it was just as typical to hear them talk about using chat channels or private communication to entertain themselves during these boring play periods.[3]

Beyond chatting with people in the game, there is a deep reliance on each other to be able to progress. As one gets involved in the high-end game it quickly becomes apparent that the kinds of challenges pre-sented can only be handled with group effort. Monsters are simply too tough to take on alone and breaking difficult camps (spawn-points for clusters of monsters) can often only be achieved through a diverse set of skills (or basic force). Most significant-ly much of the best equipment in the game, including the "epic" item for a class (a kind of penultimate weapon) can only be gotten through help from other players (sometimes more than forty people). The reliance on not just grouping, but getting *good* groups (productive ones in which you get a decent rate of experience and have minimal deaths and downtime), becomes central to high-end game play which is where power gamers in *EQ* cluster. As one of

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[3] Players noted with some amusement the introduction of a Tetris-like game called Gems within EQ. The game allowed people to play a very simple game within the game (overlaid onto the standard interface). As one reviewer wrote, "Somewhere, a merciful pro-grammer noticed that certain aspects of the game were SO GODDAM DULL and downtime was SO EXTENSIVE that people were doing things like laundry and watching television while they waited to hunt, level, cast spells, travel to meet friends... in short, to play EQ. Out of the goodness of his heart, he leapt into action (on his own time) to solve the problem. The result? Gems" [10].

them put it, "A lot of it is knowing people you trust to play the class well." Power gamers rely on building strong social networks so they are able to call on help as needed, form well-balanced groups for particular tasks, and propagate raids. They are also quite clear on their need to be seen as good players - "how am I going to work in conjunction with people" - ones who can be counted on to valuably contribute to a group. The better your reputation the more likely your opportunities to advance.

Guilds

These reputation systems play a significant role in the construction of the high-end game, thus not only linking power gamers to a broader community of players but at times making them quite beholden to it.[4] The development of high-end "raiding" guilds (often known as "uber guilds") act as formalized institutions which, based on reputation systems, provide social support and legitimacy to the power gamer. These guilds are often central to player success as they provide a consistent and reliable source of not only game knowledge, but labor (in the form of help from guildmates). As one player suggested, in "*EverQuest* it's impossible to do it [reach the high-end game] without a guild."

Within the guild power gamers not only have a very local mechanism for sharing knowledge and tactics, they are also called upon to support the other members and advance the cause of the guild. Most uber guilds in *EQ* are very dedicated to raiding ever increasingly difficult or unexplored zones. New challenges are always being sought after and created. Doing so becomes in part a status marker but it also serves as an important mechanism for continuing to enjoy the game. I would argue that the participation of power gamers in guilds points to a kind of sociability we don't normally associate with this kind of focused play style. Not only is there a kind of broader community the players are involved in, they are quite often called upon to put aside their own individual needs for the good of the group. As one put it, "Somebody calls a raid, you get there. You drop everything. 'I'm half a bub to level!' No, you get there."

This kind of commitment to a larger group is important to specifically note given it moves the idea of socializing beyond simply chatting, or informal friendship networks, to a recognition that there is a *fundamental* necessity to rely on others in a game like *EverQuest*. The power gamer is not exempt from this. Their intense focus, commitment to instrumental action, near love of efficiency does not in the context of *EQ* produce an isolated and individualistic player but a highly networked one.

THE PLEASURES OF INSTRUMENTALITY

In the examination of power gamers you begin to confront a model of play that at times looks and sounds quite unlike how we usually speak of gaming in general. The simple idea of "fun" gets turned on its head by examples of engagement that rest on efficiency, (often painful) learning, rote and boring

[4] Guild membership is not always a sure path to success, especially when ones character is not quite tuned to the other members. One player I interviewed addressed this when he talked about how he joined a guild for the social support only to find his character was essentially locked out of advancing due to the deeper structure of the game - "At that point [after his offline friends left EQ] I was kind of alone in the game. Not having anybody to rely on, I joined a guild. That was kind of fun for awhile [but] the better people get the better items... so you can get better items. And I wasn't getting any of the good stuff. And that's sort of discouraging I guess."

tasks, and the like. Indeed many power gamers don't at all use the term fun to describe why they play but instead talk about a more complicated notions of enjoyment and reward. At times it almost appears as if they were speaking of… work.

I would argue that one of the problems with simple notions of fun is that it cedes the discussion of the pleasures of play to an overly dichotomized model in which leisure rests on one side and labor on another. But might we imagine a space in which our games at times aren't fun at all and, conversely, our labor is quite pleasurable? Does the framework in which work is about suffering and play is about relief get us very far in understanding the multiple ways people not only game but experience their activity?

As is probably quite obvious the line between the style of play power gamers engage in and that of professional gamers is not very distinct. After some preliminary work in the area it certainly appears to me that the instrumental and rigorous approach to gaming you find amongst professionals is not unique. In fact, professional gamers (who often play FPS's and strategy games) would probably be more at home discussing their approach with some of the *EQ* power gamers than a casual gamer in their own genre. I would that some of the suspicion or skepticism with which power and professional gamers are viewed does not do justice to the *general approach* as a legitimate gaming style.

Caillois for example has written that play is "an activity that is free, separate, uncertain, unproductive, regulated, and fictive" [3, p.43]. He speaks of the "contamination" of play when it is encroached upon by reality, obligation, or professionalism. He writes that in these instances,

What used to be a pleasure becomes an obsession. What was an escape becomes an obligation, and what was a pastime is now a passion, compulsion, and source of anxiety. The principle of play has become corrupted. It is now necessary to take precautions against cheats and professional players, a unique product of the contagion of reality [3, p.45].

This rhetorical linking of cheats with professional players strikes me as not unlike the kinds of moves people make when they equate power gaming with cheating – both are styles of play to be mistrusted as they corrupt authentic game space. In this model there is an imagination of what pure play looks like and it is inherently incompatible with instrumentality, extreme dedication (such that it appears sometimes to look like "work"), and even occasional boredom. I would suggest that this kind of dualism does not appear to match the kinds of varying experiences players report about their styles of engagements with a game like *EverQuest*. Unpacking the complex pleasures of play –even when it does not match common notions of "fun" – is the only way we will be able to understand the power gamer who said, "It's learning a skill and getting better at a skills. Even if they are pixels, it's rewarding."

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25. IT'S NO VIDEOGAME:
NEWS COMMENTARY AND THE SECOND GULF WAR

Mia Consalvo

ABSTRACT
This study analyzes U.S. news media coverage of the
second Gulf War, to determine how individuals used the
term 'videogame' in reference to the war.
By studying how the news media itself sought to praise
or criticize coverage of the war as being un/like vid-
eogames, we can see how videogames continue to be con-
structed in popular media in troublesome ways. Analysis,
for example, shows that use of the term "videogame"
points to coverage that (1) focuses on sophisticated
technologies, (2) is devoid of human suffering, and/or
(3) seems somehow fake or non-serious. Use of the term
is largely pejorative and dismissive, reflecting (and
reinforcing) popular views of videogames as lacking con-
text and seriousness. Finally, the study examines the
military's own history of game-related activities, and
how that context creates striking paradoxes in such
usages.

KEYWORDS
War coverage, Iraq, Gulf War II, videogame, technology,
war

INTRODUCTION

Popular discourse in the United States tends to treat videogames like the black sheep uncle everyone is ashamed of, but can't disown. To listen solely to mainstream media coverage of games (rather than playing the games your-self), one would think that all games are ultra-violent, blood-filled, first-person shooters, with a primary audience of (still) young boys that play alone, are socially inept and potentially unstable. The exception would be Massively Multiplayer Online Role Playing Games (MMORPGs), where socially deprived *adults* spend multiple hours in bizarre fantasy worlds, often losing spouses, jobs, and their self-respect. It's not a pretty picture.

This past year videogames again appeared in the news, but in a new capacity. They were invoked as a descriptor for media coverage of the second Gulf War, and that description was generally not a flattering one. News reporters, child psychologists, pundits, and even the U.S. Secretary of State uttered phrases such as "Remember, this is a real war—not a video game." Although I watched some of the coverage on television, most of my news of the war came from public radio and newspapers, but even there I found the same sorts of descrip-

tions, claiming much coverage was akin to a videogame, with the comparison definitely not being a favorable one for games. Initially I contemplated doing a study of the coverage itself to see just how "videogame-like" it really was. But then I decided that it would be much more interesting, and perhaps more telling, to see how people were using the term videogame in referencing the war, without determining whether that usage was "correct" or not.

In doing so, I acknowledge a couple of things up front. First, I am not concerned with whether the coverage was truly game-like or not. A study investigating that question would either need to examine television coverage globally, making comparisons and operationalizing just how certain footage would mimic videogames or not; or the study would be an investigation of viewer interpretations of the coverage, getting at whether people perceived for themselves this particular way of viewing the war. I do neither of those things here. I am also not interested in how closely coverage might seem to digital war games, in particular. I am, however, interested in media discourse—in how the news as well as popular culture help construct a reality for us that is hegemonic, or "common sense," and how a common sense view of videogames is articulated.

The attraction of this approach is that hegemonic systems are not totalizing, meaning of course that the media can't set a monolithic meaning or 'control system' for viewers and listeners to passively inhale. There will always be contested meanings, contradictions, and various groups fighting for their own particular way of looking at things to become the dominant way. That's what we're doing at this conference—studying digital games, and arguing for new ways of looking at them, and at understanding them.

So, here I examine how the U.S. news media construct-

ed a set of meanings surrounding the second Gulf War that invoked the use of the term 'videogame' as some sort of descriptor. I limit the analysis here to U.S. news media coverage simply to get the ball rolling—I wanted some sort of baseline, and from here I would like to expand the study, to see how this picture differed. But, even the U.S. coverage comments on foreign coverage, so a slightly wider view can be glimpsed, if you look carefully enough. But, first to some theory that sets the ground for the later analysis.

WHAT 'EVERYBODY KNOWS' ABOUT VIDEOGAMES

John Fiske writes about polysemy in media texts, and how various viewers, of say television, can 'decode' a text, or television show, in different sorts of ways [1]. Celeste Condit [2] has written about the difficulties of producing these polysemous messages, however, as there are elements of the story that are usually given precedence over others, just as there are sources of information given greater credibility, and methods of production that help guarantee that certain views and ways of seeing the world are privileged over others.

Those practices help, in part, to create what Gramsci [3] theorized as a hegemonic (and "common sense") way of viewing or understanding an event or situation. Stuart Hall and others [4] have done extensive work (research and theorizing) about how the news media's reliance on certain practices (quoting officials, presenting two sides to a story for balance, etc) helps privilege certain views and marginalize others. We can see this practice at work when we think of how the news media covers videogames even generally.

For example, although there are a growing number of publications that review games seriously (*The New York Times* is probably the best example), most of what the news reports about games is the unusu-

al, or the troublesome. The Columbine High School shootings as well as previous school shootings; players that commit suicide after playing games excessively; the nudity found in games such as BMX XXX; these are the most prominent stories that the media features, at least in the U.S. Part of that is due to the 'it bleeds it leads' quality of much news today, and part of it is likely due to media producers' own lack of understanding of the game industry (and games themselves). James Paul Gee [5] writes that when people start to play games, (just as when they start to do other things, such as get a Ph.D.) they join an affinity group that has a shared knowledge about the object of interest, and a particular way of looking at it. I would argue that currently, most media professionals, at least not the important gatekeepers that control what is and is not aired, and how it is presented, are not members of the game playing affinity group, mainly due to a generational difference. While that is likely to change, it presents hurdles for greater understandings of games, and leads to the creation of a particular view of games, a hegemonic view, that sees games as less than serious, and not very worthy of careful thought and consideration.

That said, the news media help to construct a particular view of videogames, one that may be at odds with those that play games actively. Yet, this is the more commonly accepted, hegemonic, common sense view, as it is the one given most prominence by the media. That view, and those that hold it, are taken up and emphasized as one particular exemplar of how media coverage of the second Gulf War was executed.

This project attempts to make more explicit that hegemonic view, and question how it was deployed in reference to the war with Iraq.

METHODS, QUICKLY COVERED
This paper has one central research question driving it:

"How are individuals in news reports using the term 'videogame' in reference to the second Gulf War?" To answer that question, I employed textual analytic methods to relevant news coverage, sorting for themes as they related to how various individuals ascribed particular meanings to the term 'videogame' in the process of talking about the war or coverage of the war.

For this project I examined transcripts of television broadcasts from ABC, NBC, CNN (and its smaller nets), CBC, MSNBC and CBS from March 23 to the end of April 2003 (roughly the time span of the war itself). I searched for programs by using the keywords 'video game/videogame/computer game' and 'war.' This allowed me to focus only on those programs and shows that mentioned games in the context of war coverage. Additionally, I studied newspapers from all regions of the U.S. for the same keywords, but only for the month of April.

In examining these texts, I noted the length of each story, date of broadcast/publication, principal author/ reporter, name and occupation of person making the statement about war and games, the actual statement, the context of the statement, any reaction to the statement, and the overall context/ summary of the story itself.

These texts are meant to be interpreted as a sample of mainstream U.S. media coverage of the war. A more comprehensive analysis would have to take into account news magazines, web sites, and local television stations, among others. The findings discussed here are representative of wider coverage, but a broader study should be undertaken, especially to compare global media commentary with the U.S. version.

In all, 75 stories were found that held the key words, although approximately 10 were not included in generation of themes, as these stories were about the

popularity of video/computer war games since the outbreak of the Gulf War. The remaining stories were read through at least twice, and preliminary themes for categorizing usage of the term 'videogame' were identified. All statements were then double-checked, and the prevalence of themes and closeness of fit of all statements were verified. The following analysis describes the themes, gives examples of how stories employed them, and their prevalence. Following that, a more general discussion of how the themes intersect with other knowledge about the military and its use of various types of games is taken up.

VIDEOGAMES AND WAR: MAJOR & MINOR THEMES

After studying all related articles, the following 3 major and 2 minor themes were identified. The three major themes relate to how various individuals commented on coverage being specifically like or unlike a videogame (with various positive and negative connotations), while the two minor themes invoked comparisons between U.S. coverage of the current Gulf War and Gulf War I, or between U.S. and foreign media outlets' coverage of the current war. All three of the major themes were about evenly represented (roughly 30% each of mentions), although some overlapped in meanings within a single quote. It is also important to note here that the three themes should not be taken in isolation from each other. Many times, a quote invoked more than one theme, and I believe the importance of the various themes comes from how they work together to shape an overall picture of videogames and their relation to war.

(1) It's not a videogame, [because war] involves real people suffering, dying, or bleeding

The first theme identified attempted to distinguish or distance media coverage of the war, or people's

beliefs generally about the war, from videogames, which was a placeholder for a certain meaning. Here the point of difference was the 'human.' People–either simply present in images, or suffering, bleeding or dead, were the key. Reporters, authors, and speakers employing this theme were implying that videogames do not invoke suffering or dying, and are absent of humanity.

For example, an NBC News political analyst, Jonathan Alter, comments "that was the most wrenching, moving moment [an interview with a woman whose son had just been killed in Iraq] of television today by far because it makes you realize this is not a fireworks show. It's not a video game. It's about real human lives, and we do tend to forget that sometimes" [6]. Alter suggests that while war is about real human lives that occasionally are lost, videogames are not about 'real' human lives. Likewise, on National Public Radio a Vietnam veteran is asked for his thoughts on the war and he responds "...this is serious. Large numbers of people are going to be killed here. It's not that–actually I'm in favor of what's going on here. It's just it's not a video game" [7]. The veteran, Frank Thompson, is not in favor of people being killed, of course, but wants to make the point that people *will* be, and to argue the point forcefully, he brings in the comparison with video games, invoking our hegemonic associations with digital games–that they are not about real people being killed.

Finally, the disassociation of videogames with real people and suffering is compared to media coverage by other countries. Christopher Dickey, a *Newsweek* staffer commenting for CNN states that "What people in the United States maybe don't appreciate, although everyone has written stories about it and American television has talked about it, is the incredible divergence that exists now between what the rest of the world sees on its tele-

vision screens and what the American audience is seeing, not so much on CNN, but there are other American networks that make this sound like it's a football game and make it look like it's a video game. What the rest of the world is seeing is dead children, dead soldiers, dead bodies, ravaged cities, and it's only going to get worse" [8]. Here, U.S. media are taken to task for their sanitized version of war, making it 'videogame-like' through the omission of views of the dead. And by comparison, foreign news outlets are showing the 'adult' version of the war, which game-liking Americans are perhaps too blind to see or handle.

To sum up this theme, then, sources that range from anchors, reporters and writers to military personnel and various experts all seek to expound on the real human suffering in war, and to talk about the coverage, the 'negative example' or useful opposite, becomes videogames, which 'of course' do not feature human suffering, death, or blood (ah the irony).

(2) It's just like a videogame, with all that hi-tech media/military equipment

Another theme found through analysis is a focus on technology, and the parallels between videogame technology and media and/or military technology. Connotations here can be positive or negative—either fascination and a 'gee whiz' attitude towards the hi-tech equipment being employed, or alternately, concern that such hi-tech might be a detriment somehow—usually through showing viewers 'too much too fast' through live-satellite broadcasts. Again, this theme overlapped with other themes, and was found to apply to approximately one-third of the statements studied, and representation was almost evenly split between references to media technology and military technology.

In regards to comparisons between videogames and media technology, oftentimes reporters commented on how the mechanics of covering war had changed, leading us to the present where live satellite coverage could be beamed into people's living rooms and onto their big-screen televisions. Sometimes this was compared to coverage of previous wars, such as Gulf War I or Vietnam, which raised questions about how the viewing/listening public would react to such graphic shots, produced live, appearing in their homes.

In other instances, individuals made the comparison to comment on how the news appeared on television screens—not the 'live-ness' of the shows, but the design, composition or formatting of information as an aesthetic component. For example, the famously cranky CBS critic Andy Rooney commented that "Any time death is imminent, life is exciting. And we're watching this war as though it was a video game. On television, it's hard to know where to look to find out what you want to know. There are pictures on top of pictures, moving print on top of those. There's more than the eye can see, or the brain comprehend" [9]. While Rooney's comments could also extend to thinking about videogames in relation to their lack of 'real' death (such as I dealt with above), the statements he makes following the citation of war-as-game are revealing. His comparison of the multiple sources of information found on TV-screens with videogame screens demonstrates a similar use *and fluency* (or its lack) with hi-tech.

Andy's discomfort with such an aesthetic is telling as the show he appears on, *60 Minutes* is probably the longest running TV news magazine show in the United States, and has been a top-rated show for years, but has come under fire recently for its aging anchors and 'too old' viewer demographic. Andy's incisive remark about the aesthetic of war coverage as similar in appearance to games indicates how

many of the primary gatekeepers of U.S. media are uncomfortable, if not unfamiliar, with such a design, and so feel discomfort or unease at its presence.

Another individual, a columnist for the *Los Angeles Times,* makes the same connection: "now, beyond tailoring sitcoms and dramas to a younger crowd, news coverage increasingly reflects this infatuation, from model-like anchors to gee-whiz graphics that translate the war into video-game language for those conversant in Nintendo and PlayStation. ... three-dimensional animation of bunker-buster bombs or computer-generated soldiers storming cartoon buildings at times resembles an ad for 'Mortal Kombat' [10]. That columnist, Brian Lowry, is discussing the tyranny of the 18-49 demographic in U.S. commercial television, but his remark also clearly shows how media use of computer graphics and other 'hi-tech' devices can seem like a 'foreign language' to those not conversant in its design or interpretation. His remark is especially apt in relating his dis-ease with videogames, as the comparison between soldiers and the fighting game *Mortal Kombat* is a stretch, at best. So, we see here again how a 'common sense' view of videogames is maintained, by a segment of the media with power to impose its understandings (rather than others), here of videogames, and what they are like.[1]

In addition to the linkage between media technology and references to videogames, there were also comparisons between the games and military technolo-

gy. Here the associations were either made neutrally (using the term 'videogame' as largely a descriptor and not offering an opinion or assessment of that linkage) or were positive, extolling the extent to which the military has 'progressed' in making hi-tech weapons and gadgets to fight wars more efficiently, more safely, and more impressively.

Many of the uses here centered on describing innovations in military equipment. For example, in describing the integration of their 3D satellite imaging into military mapping technologies, John Hanke, the CEO of the developing corporation, Keyhole, Inc., stated "the technology is a marriage of video game technology, technology that was developed for military flight simulators. We put all of those things together and we get the ability to seamlessly roam and interact with this very, very large and detailed model of Earth" [11]. Although here it is the outside company making the comparison, even those within the military acknowledge how game-like some of their equipment is becoming. This can include the outright use of game based war simulations such as one made by Gamewars Inc. for the Army Research Institute (#51), as well as technology designed to resemble videogame hardware. Major Greg Heines, an Army Major, explained to writer Bobby White that "at a Marine Corps Warfighting Laboratory, a 15-inch remote-controlled truck, the Dragon Runner, now close to deployment, is guided by a six-button keypad modeled after Sony's PlayStation 2 video game control ... because military designers felt confident

[1] We also see, as I noted, that this particular way of understanding news shows/ videogames is the view of an older portion of the population, and as demographics shift, so might attitudes about 'proper' screen aesthetics.

that soldiers would be familiar with it, and by default, partially trained to use it" [12].

As we can see then, (and I will go into more depth about later), the military creates and uses many 'videogame-like' technologies that it describes that way itself, partially in an effort to better train young soldiers. Here again there is a return to a generational divide (younger people are more inclined to be proficient at and open to game-like technologies, is the assumption), although all parties seem willing to accept it. Thus, most references to the war and videogames that relate to technology make generational assumptions, although with different connotations of positive and negative effects.

(3) It's not a videogame, [videogames are] fake/non-serious/pretend/trivial

The last major theme that was found was closely related to the first, but differed in that it tried to focus on the underlying 'truth' or reality of the situation. Rather than talk solely of humans or human suffering and death, speakers employing this theme were making a broader statement about what counts as reality, and they were situating themselves as the authorities about what counted and didn't count as 'real' in this particular construction. This theme, that wars are unlike videogames because videogames are (some variant of) fake/pretend/unreal, was also often coupled with the assertion that wars are about people and suffering. But other times this theme was employed on its own. And as the speakers were defining the nature of reality and what counted as 'real,' they placed videogames outside that boundary, as being fake, trivial, and not to be taken seriously.

The distinction between the real and the fake was made very clear by one source, a retired USAF Colonel who remarked "everybody will make post mortems of whatever even occurs and I think we've

put ourselves in really an *artificial* position. It's a war. It's not a video game and it's not a game of politeness" ([13], emphasis added). Other speakers, in trying to show how 'real' the war was, made a comparison designed to underscore the point with what they thought was an 'outrageous' example of the opposite-of-real—videogames:

> • "…it's really important for every American to remember that this is not a video game. This is not imaginary. Young men and women are risking their lives 24 hours a day right now in real combat against a determined opponent …" ([14], emphasis added).

> • "The families recognize, more so than anyone, the very real nature of what is happening, Johnson said. These are not video games" [15].

In this theme, the use of the term videogame was largely negative, leaving videogames to occupy the position of trivial and fake, as something not worthy of being taken seriously. Yet as I will discuss later, that positioning has interesting implications for larger media coverage of (and popular thought about) videogames, as at other times, videogames are taken very seriously, so that contradiction is deserving of careful scrutiny.

Cross themes: Gulf War I & Global Media Comparisons

Finally, two minor themes appeared, almost always in tandem with the major themes described above. Of the 75 references to war and videogames, 4 related in some way to the first Gulf War, and 6 referenced foreign news coverage in comparison to U.S. offerings.

In the first sub-theme, speakers made statements concerning media coverage of the first Gulf War, and linked

it to videogames in a purely pejorative way. This was done mainly by talking about the very limited access that reporters were given in 1991, and how the resulting coverage was largely an exercise in military PR. For example, in an editorial in *The Baltimore Sun,* Christopher Hanson wrote "in reaction to the more graphic coverage of Vietnam, the Pentagon during Gulf War I restricted access and provided film that made the conflict seem like a video game" [16]. Likewise, Ty Burr wrote an editorial in *The Boston Globe* lamenting that he learned more about the first Gulf War from the film *Three Kings* than news coverage, because "there's still more human truth to the film than in the video-game footage of buildings silently exploding that we saw on TV during the Gulf War itself" [17].

It's easy to see the other themes coming through in these statements (games as pretend, games as about humanity), but the linkage with the first Gulf War also points to a shift in how reporters considered coverage of that war. During that war, the U.S. military did not allow the "embedded" reporting such as in the current war, and the pictures being released were largely the ones the military approved of. Following the first war there was a backlash against the media, as critics pointed to the anemic coverage, and more importantly, news organizations' relatively easy acceptance of those limits. So it's likely that reporters were now trying to distance themselves from that coverage, blaming the military rather than themselves for the 'fake' version of the war that was presented to the U.S. public.

The second sub-theme related to speakers that attempted to compare U.S. war coverage with foreign outlets, including Al-Jazeera as well as European companies. In the comparison, U.S. coverage was always disparaged, and so earned the moniker of 'videogame-like coverage' compared to the rest of the world's approaches.

Many of these instances condemned all American coverage for a focus on 'fancy graphics,' animations, and use of effects like night-vision goggles. These sources suggested that U.S. coverage was more concerned with flash, rather than substance, with one Canadian writing that "too many people have a video game mentality, shock and awe. That's why the majority of the countries in the world oppose the action" [18]. Even a correspondent for Al-Jazeera argued that offering people a sanitized image of war (such as by not showing interviews with captured American POWs) would result in "war as video games" [19]. These sources and others painted all U.S. coverage with the same brush, labeling it hi-tech, but fake, and inferior to the coverage found in other countries.

To summarize then, these two minor themes are not representative of the coverage as a whole, but they do tend to reinforce the other themes, as references to war coverage being similar or dissimilar to the first Gulf War's coverage, or comparisons to foreign news coverage, reinforced larger themes of the 'reality' of war, and the necessity for including images and coverage of human suffering and death. These admonitions of 'inferior' coverage associated that coverage with videogames—leaving a negative connotation once again with games, as something real wars should not resemble. Yet that conclusion becomes troubling when we compare it to what 'normal' coverage of videogames is like (at least in the U.S.). Can a view of videogames as fake and not about real people fit easily with other coverage of human suffering somehow related to games? Here the contradictions become apparent, and demand further investigation.

SO ARE VIDEOGAMES TOO FAKE OR TOO REAL?

Performing a close reading of how various individuals, from ordinary citizens to active military person-

nel and government officials, talked about war in relation to videogames, highlights some of the instability in regards to how to think about games, particularly if these utterances are compared to more 'everyday' statements about games. As mentioned at the beginning of this paper, 'normal' coverage of games in the news media highlights how games are potentially dangerous, how they are 'too violent' and too bloody, especially for children. They are implicated in school shooting incidents, and during a recent wave of sniper attacks in the Washington, DC area, much attention was paid to sniper-shooting videogames and some stores, such as Wal-Mart, even took them off their shelves (at least for a while).

Yet that coverage paints games as dangerous, which is in contrast with statements about the war, where videogames are seen as fake and trivial. How do we understand that contradiction? Some might argue that it's related to the generational issue in regards to game playing, yet it is the established (mature) media system that is trying to see games both ways— as *containing* and *devoid of* threat at the same time. If that is so, what else can explain the bifurcated view? One answer is looking again to hegemony and the presence of multiple ways of looking at reality. Although both of these views are dominant, they appear at different times, in different contexts. They also point to a potential shift in the way games are viewed, because as these two viewpoints are put in contrast, the underlying beliefs about games are held up to scrutiny, and we start to uncover some interesting views about the role of videogames in life, in the military, and how those roles are becoming more established.

WAR GAMES: THE TANGLED HISTORY

Only looking at how media coverage of the war used the term 'videogame' overlooks a history of the military that is deeply intertwined with all kinds of games, electronic and otherwise. Military strategists have always engaged in 'war games' that have encompassed pencil-and-paper approaches along with live (but simulated) engagements in the field. The film *War Games* [20] drove home the seriousness of these games as we moved into the nuclear age, and increasingly began to rely on computers to aid in testing strategies. But even as militaries have produced games to practice (or play at?) war, these games have been wrapped in a cloak of seriousness, as not about fun like 'regular' games.

Of course no one would argue that war is fun, so why the need to either show these games as serious, or avoid the term altogether by going with euphemisms like 'war simulations'? Games are still seen in contemporary (U.S.) culture as devoid of value, as about diversion and trivial pursuits, rather than having any beneficial underlying purpose. Yet, even as the military has struggled with the terms of the discourse, they have whole-heartedly embraced not just games but digital games, their interfaces, and their technologies, to help train soldiers to go to war.

For example, although digital war games have traditionally been used by military strategists, now even "the lowest level of infantry soldiers" are being trained on simulators and games to learn about team building, attack and defense strategies, and how to use various technologies [21]. Tanks are equipped with communication screens that resemble videogame screens, and weapon controls are designed to mimic PlayStation controllers.

And that training is not just limited to military activities, but is spreading across culture. For example, the Army has worked with Hasbro (a toy company) for years, trading information that benefits both partners [22]. While toy companies rely on the military for information in order to create the most 'authentic'

war toys possible, the military is also relying on the toy companies, and creating cooperative groups with them for various purposes. Toy companies along with "the gaming and entertainment industries have assisted in battle scenarios and story lines that have helped the Army understand what it might be facing in battle arenas or with terrorism" [22]. The Army created The Institute for Creative Technologies in 1999, in order to develop "immersive training simulations" [22].

Those alliances demonstrate how closely military culture has become interwoven with digital gaming technologies (in addition to more primitive gaming simulations). Yet what might work for the military in training and operations is still deemed by current discursive standards as not 'serious' enough–hence the worry about the use of the term game. Although the military uses games to prepare for war, games must still be described as the opposite of war, privileging the seriousness of war, and sacrificing the (potential) seriousness of games. Where does that leave us then in the larger discursive world of the popular media?

CONCLUSIONS

What began as a simple exercise examining news media use of the term videogame in relation to the Gulf War has led to a larger issue, one that may remain unresolved. Can games be both real and fake? Can we dismiss superficial (or boosterish) war coverage as like a videogame, and in the next breath, decry games for turning kids into killers? While some of the negative connotations attached to games in traditional media can be attributed to a generational divide–between those that play and understand games and those that don't but control most media– it seems there must be more to the contradictions than that. While writing this conclusion I took a quick break and went to a web site where the newest video game trailers are posted [23], to check out the latest developments. Two of them were a trailer and a gameplay segment from *America's Army: Special Forces*. The Army's first game, for recruiting rather than training purposes, has remained popular, and the host site boasts over 2,000,000 downloads of the free game, with over 200,000,000 missions played. So will the view of games as trivial change when these players grow up, or gain more control of the media?

Maybe, maybe not. Perhaps we need to distinguish war from games to lend more seriousness to war, to give it a language and discourse separate from our 'pretend' wars and playful strategizing. But can games then ever be seen as serious? They are taken seriously enough in relation to teen violence, but not in other (perhaps more meaningful) ways. I can't say here–the discourse is still being worked out, and gamers are still fairly marginalized in larger society. If that changes, or if games become more mainstream, perhaps the discourse will shift too. Or maybe we just need to identify something as a play-space, and we should rethink how important it is to have 'fun' or 'trivial' items surrounding us–maybe it's very important in the end. Who knows? Let's go play a game and think about it some more.

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26.TOGETHER WE BRAND:
AMERICA'S ARMY

Shenja van der Graaf
David B. Nieborg

ABSTRACT

This paper signals the aesthetic and socio-economic impli-
cations of a new generation of commercial media culture in
an age of computer network-facilitated participation. It
explores the cultural status of the online game America's
Army: Operations (US Army, 2002) that has commerce at the
core of its brand identity. The game exemplifies the link-
age of commercial goals with cultural texts through cre-
ating engaging experiences, initiated by commercial cor-
porations for reasons of promotion and profit, enabled by
computer networks, and — to a lesser extent - given form
by various members of the public.

KEYWORDS

Advergames, design, brand experience, participatory cul-
ture, marketing aesthetics

"America's Army is the first game to make recruitment an explicit goal, but it snugly fits into a subgenre of games already in vogue: the "tactical shooter," a first-person shooter that emphasizes realistic, squad-based combat".[1]

INTRODUCTION

The recent proliferation of digital technologies has reactivated debates regarding the aesthetic status of new, technologically enabled expressive forms, and challenges regarding the role of commerce in the production of culture have been mounted. Digital technologies have made questions regarding originality and reproducibility particularly difficult, and they have blurred the lines among producer, distributor, and consumer to a far greater extent than previous media forms. Computer games, digital audio and video production equipment, and the Internet have enabled new forms of production, distribution, facilitating what has been termed participatory culture. Since the late-1990s researchers have shown an increasing interest in this linkage between new technologies and publics, looking in particular at the formation of new social collectivities and 'bottom-up' redefinitions of cultural practices. These studies have tended to recover aesthetic status and social power by casting the work of participating publics as transgressive[2] or as at least unintended[3]. The actions of users were thus seen as taking basic materials provided by commercial interests (themselves in many cases, aesthetic objects), and actively re-appropriating and redistributing them as cultural practices. Think

[1] Au, W. J. Weapons of mass distraction. Salon.com (4 October 2002).

[2] Against the perceived economic interests of the commercial culture producers and providers, like Napster.

[3] Not considered by producers or providers but also not perceived as harmful, a la Star Trek fan fiction.

of activities such as writing fan fiction and creating spoofs (fake advertisements) and modifications on the Internet. Henry Jenkins (2002) has summarized this aptly: ''patterns of media consumption have been profoundly altered by a succession of new media technologies which enable average citizens to participate in the archiving, annotation, appropriation, transformation, and re-circulation of media content.''

The introduction of Mosaic and the Pentium chip in the mid-1990s profoundly changed the notion of re-circulation initially associated with digital culture by decentralizing computer networks and enabling the peer-to-peer exchange of sound, image, and text. The Internet could be used for more than looking up information or sending email. Instead people formed networks, effectively constructing 'user-created search engines' for the exchange of music files (KaZaA), games, and increasingly, news and chat. While the present moment is marked by a legal standoff between robust communities of users (cultural co-producers) and the established media industry (particularly the music and film industry), some elements of the corporate media world have taken a different approach, embracing the new technological use rather than attempting to outlaw it. These corporations have found their way to online participatory networks and are attempting to use them for their own good. Advertisements in the form of games, movies and the like are created to promote a company's product or service, but they crucially rely upon

blurring the boundaries between production and distribution, encouraging the target audience to work for them. Whether by playing games with embedded advertising, or inadvertently sending marketing information back to advertisers, or simply by passing advertising texts within one's circle of friends, the target audience and the larger dynamic of participatory networks are 'used' by corporations to achieve their ends.

The linkage of commercial goals with cultural texts is not new (television and film texts often embed commercial messages, and most art works are elements in thriving commercial industries), but the scholarship on the cultural status of pointedly commercial culture remains poorly developed. Equally underdeveloped is research on product aesthetics and identity, even while product attributes and benefits, brand names and brand associations are no longer sufficient to attract attention from customers. The emergent corporate tendency to create engaging advertisements in the form of entertainment, offers customers memorable sensory experiences that tie in with the positioning of the company, product or service and should therefore be studied. This paper seeks to address these lacunae by exploring the online game *America's Army: Operations* (AA:O)[4] as an in-game advertisement (advergame) for the US Army that has adapted the game format in order to create ever-changing consumer experiences. This questions how we should consider the cultural status of artifacts that have commerce at the core of their

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[4] AA:O is a game in constant development: Patches, containing new training programs, bug fixes and new maps are issued on a regular basis. The version described in this paper is the Windows version of 1.9, officially released on August 7, 2003. AA:O is available on Windows PC's, on the Mac since the 16th of July 2003 and there is a Linux version of AA available since 21st of August 2003, players from all versions can play on the same servers.
The way to obtain AA:O differs from its commercial counterparts. Because AA:O is a free game one cannot go to a store or website to order the game. Players have to download the game (for free) or go to an Army recruiter to pick up the game (US only).

identity as well as the concepts aesthetic experience and branding experience. Examining online advertising through games will become here an anchor point for corporate aesthetics, from which a customer gets an overall impression of an institution.

A MILITARY ENTERTAINMENT COMPLEX

On Independence Day in 2002 the online multiplayer first person shooter (FPS) game AA:O was released by the US Army. The game is developed in-house by the Modeling, Simulation and Virtual Environments Institute (MOVES) of the Naval Postgraduate School (California) on Unreal's latest engine technology and designed by a group of professional game developers, simulation researchers, and graduate students (Lenoir, 2003). The online game is developed to inform people about the US Army and as such is functioning as a recruiting tool. In February 2003 a paper on AA:O was published that offers great insights in the popularity and goals of the game[5]: "Game use as of 16 November 2002 saw 1,007,000 registered accounts, 614,000 graduates of basic rifle marksmanship and combat training (BCT), and more than 32 million missions completed (averaging 6 to 10 minutes). Missions per day average 338,380, with players typically accomplishing 21 missions after BCT. Assuming 10 minutes per mission, we calculate gamers racked up a combined 263 years of nonstop play in the first 58 days alone [...]. To put it another way, if these hours were payable at minimum wage ($6.75 an hour), the bill would hit $15,590,367 for 58 days. And if we project the 4.6 years of play per day

to 1,679 years of play per annum, we are looking at $99,279,270 of intensive effort donated gratis by America's youth."

A short military history is in place to motivate this popularity and come about of AA:O as both a recruiting tool and its status within the military educational program. For over fifty years the Department of Defense (DoD) has actively worked to promote and engage in the development of war game design, which was mainly the terrain of commercial designers. With the rising costs of (live) exercises much effort was poured into the research and development of computer simulations, the military equivalent of games. In the early 1980s, the construction of SIMNET (SIMulator NETworking) replaced both live exercises and costly high-end stand-alone simulators and made a shift from individual towards collective training. The choice for simulation is obvious both from an economic as a technological perspective, a great deal of modern warfare nowadays is electronically mediated by (computer) screens. The booming innovation of commercial simulation technology did not go unnoticed and accompanied the fade away Cold War threats in the 1990s, the military-industrial complex transformed into the military entertainment complex (Lenoir & Lowood, 2003). In 1994 the Federal Acquisitions Streamlining Act started a new era in the simulation and networking endeavours of the US military. Policymakers were ordered to primarily look into the possibilities of using commercial off-the-shelf (COTS) alterna-

[5] Zyda, M. et al. Entertainment R&D for Defense. IEEE Computer Graphics and Applications, (January/February 2003), 28-36.

tives for virtual training purposes, a move which should serve the commercial sector as well. This resulted in several modifications of commercial games on different platforms. In 1996 one of the early first-person-shooters, *DooM II* (id Software, 1994), was modified by the US Marines to serve as a FPS tactical training tool: *Marine Doom*. This modification gave US Marines the opportunity to train and develop military skills and decision-making with a four-member fire team.

Nowadays a wide array of games is used for training purposes by all branches of the US Army[6]. Both COTS games as well as custom, special designed, games are used for simulation, readiness and training, rehearsal and retention (Maguire et al. 2002). At this moment for example *Battlefield 1942* (Digital Illusions, 2002) is used by both the US Army and the US Marine Corps while Falcon 4.0 (MicroProse, 1998) is used by the US Air Force. AA:O is used by the infantry before setting foot on the real shooting range[7], while *Full Spectrum Warrior* (Pandemic, 2003) shows the beneficial flow of knowledge and technology between the US Army and commercial game developers. It is developed as a training tool but will also be released to the public. The complete proof of the institutionalisation of games by the US military is the inter-Service Academy competition *Warlords*[8], where teams from the service academies compete against each other, in what gamers would call a LAN-party.

THE US ARMY BRAND

According to a study issued by the DoD, conducted by McKinsey and Company, the US Army did not have a brand until two years ago. There was no synthesis of all attributes of the US Army that create an identity, such as logo and service packaging[9]. An evolved brand is generally developed to embody a visual, verbal, social, political, and cultural language to build a relationship with a public. In short, a brand is the public's "perception of an integrated bundle of information and experiences that distinguishes a company and/or its product offerings from the competition" (Duncan, 2002). The US Army has put a strong emphasis on its branding strategy, after its discovery that its recruiting targets seemed far-fetched. Since 1995 the US Army missed its recruiting goals three times, i.e. in 1999 there had been a shortage of 6,500 recruits. The answer to its recruiting problematic was a change in the way the US Army communicates with the young people in the USA. A short-sided approach to relay simply on its name, the US Army learned that they needed ongoing insights in research-based advertising in order to understand the attitudes and needs of young people. A Marketing Strategy Office (MSO) was created that works with commercial professionals, i.e. Leo Burnett Worldwide; it changed its approach from a requirements contract to a performance-based one in order to actively promote what the US Army stands for (i.e. government-to-consumer or G2C) by increasing its benefits and decreasing its costs to increase the numbers of recruits (revenues)[10]. The ad campaign the MSO came up with was 'Together We Stand: An Army of One'[11] which addresses

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[6] See for a complete review of COTS games used by the military http://www.dod-gamecommunity.com/

[7] See Moves 2002 activity report, www.movesinstitute.org

[8] See http://www.usafa.af.mil/warlords

[9] See http://www.defenselink.mil/news/Jan2001/t01102001_t110army.html

[10] ibid.

[11] The slogan used to be 'Be all you can be'.

roughly three functions of a brand: It refers to both the values the Army finds important, i.e. teamwork (expressive function) and a social-trend that demands that the Army needs to address individual needs and interests in order to meet a younger generation of potential recruits (social-adaptive function) that is interested in how the Army can benefit them as an individual (impressive function)[12].

The US Army spends about 2$ billion per year to attract 120,000 recruits, including through this ad campaign that consisted of several print ads and commercials on TV to generate traffic for the www.goarmy.com recruiting website[13]. These numbers compared to building AA:O – for 7$ million - means that if the game generates 120 potential recruits, it has broken even[14]. And since the game is online the recruitment site's traffic has increased with 28 percent, directly derived from the AA:O site[15].

The new slogan and US Army logo drive the brand of the Army. It is the same, and therefore recognizable, for all Army departments (e.g. Army Reserve, National Guard) and strengthens the individual options a soldier has upon joining the larger team of the Army. AA:O is part of the brand. The game is a so-called advergame, which refers to "the integration of advertising messages in online games and [which] is increasingly being used as an integral part of Internet marketing and advertising strategies to promote goods and services to potential consumers"[16] (Buckner et al., 2002). In addition, advergames build relationships between consumers and products by transferring the emotion of the game to the Army brand that is powering it and creating an engaging, rather than passive, experience:

> "The [...] game is an entertaining way for young adults to explore the Army and its adventures and opportunities as a virtual Soldier. [...] It does this in an engaging format that takes advantage of young adults' broad use of the Internet [...] and their interest in games for entertainment and exploration"[17].

The (aesthetic) design of AA:O is such that the advertising message of the Army is central to gameplay which is discussed in the next paragraph.

By making the game accessible for gamers worldwide, the recruiting goal goes beyond its original scope and brings AA:O as *propagame* to the surface. In the FAQ section on the official website is explicitly stated that even when you are living outside the USA you can play AA:O, because "we want the whole world to know how great the US Army is[18] By stating that the US Army is the best and most advanced army in the world and representing this through the game and the community, the status of mere advertising is challenged.

AA:O also serves as test bed and tool, providing the US Army with the opportunity to test new findings in the area of military simulation. An example of this

12 See Franzen, G. and Bouwman, M. De Mentale Wereld van Merken. Alphen aan den Rijn: Samsom, 1999 (p. 201)

13 See note [9].

14 See note [7].

15 See note [5].

16 Buckner, K. et al. (2002) "Advergaming: A New Genre in Internet Advertising", in: http://www.dcs.napier.ac.uk/~mm/socbytes/feb2002_i/9.html

17 http://www.americasarmy.com/ faq.php

18 ibid.

19 Shilling, R. et al. Introducing Emotion into Military Simulation and Videogame Design: America's Army Operations and VIRTE. Proceedings of the GameOn Conference. (London, 30 November 2002) 151-154.

purpose is research conducted by the MOVES institute demonstrating the emotional impact of sound in virtual simulations[19]. This purpose marks a positive development for the commercial game industry because of the Army's intent to "share" their research findings with the for-profit sector. Lastly, AA:O is also an *edugame*. While the game does not seem to be a pure military simulator or training system, it is used by the US Army for training purposes and its educational features shine through. By means of instructing how to become a soldier, grenadier or sniper, AA:O teaches gamers about tactics, gun use, core values, and the like. The medic training is exemplary for this purpose: Gamers who want to become a medic need to pass four separate training courses: airway management, controlling bleeding, treating shock and a field test. After a classroom lecture, including a PowerPoint presentation and bored classmates, a mandatory multiple-choice test follows. Failing the test prohibits a gamer to play a medic.

The Army's strategy of using a game for marketing purposes works very well, however, in contrast to many non-governmental developers of advergames, no marketing information is gathered of AA:O players. The Army only acquires someone's information unless the latter willingly forwards for example his or her scoring information to the Army's recruiter. Thus, the US Army's online presence and marketing communication, especially through AA:O, brand equity is built to elicit a direct response and put its

benefits in front of its gamers without gathering explicit information. The AA:O is therefore a direct communication tool that is designed to generate a request for further information (lead generation), and a visit to an Army-related place of business (traffic generation). By creating leads and traffic through AA:O's design and characteristics, the Army's brand is not about 'just a logo'. It is much more, namely, it is the *experience* that occurs when a gamer comes into contact with the Army's game.

AESTHETICS MARKETING: GAMEPLAY

So far, not much attention has been paid in the branding phase of marketing to how a symbol is strategically created and how a brand conveys a positioning and value through aesthetics[20]. Exploring AA:O as a communication tool to convey the Army's message encompasses a particular take on the notion of 'cultural economy'. It neither refers to the 1970s approach to study the relationship between economics and artistic activities nor the during the 1980s coined culturalist critique of economics and political economy that largely focused on cultures of consumption (Negus, 2002). AA:O as a cultural site of production is emphasized – where the G2C model is explored through the visual design and gameplay of AA:O and the come about of participatory clusters surrounding the US Army's brand.

As outlined earlier, the Army's MSO came up with the 'Army of One' campaign which eventually led to its most successful counterpart in accordance with the

[20] Research focuses largely on naming and associations and broad strategic marketing issues, and neglects the variety of sensory elements that work together to create a brand identity (see Schmitt & Simonson, 1997).

Army's target group, the free online game. Based on many years of experience in the development of visual simulations a very attractive game was created that brings the many faces and activities of the Army to the foreground through experiences. The creation of engaging aesthethic experiences is a relatively new marketing paradigm and has evolved out of two earlier phases; on the one hand, the attributes and benefits phase which involves a technique of classifying buyers according to the benefits that they look for in a product or service (Kotler 1997), on the other hand, the branding phase where a product or service provides an image – beyond specific product or service elements - and stands for a degree of quality (Aaker 1991). Schmitt and Simonson (1997) coined the term 'marketing aesthetics' to refer to the overall trend towards lifestyle and value systems. Consumers base their choices on "whether or not a product or service fits into his or her lifestyle or whether it represents an exciting new concept – a desirable experience"[21]. It is about the marketing of sensory experiences in strategic communication from G2C that contribute to the Army's (brand) identity. A variety of possible sensory elements that come together to create a brand experience are described through the analysis of (marketing) aesthetics of AA:O, i.e. a game description, audiovisuals, basic training and clans

AA:O's urge for realism results in a distinct game while still using conventions from the squad-based tactical FPS genre. Certain features like the strict

Rules Of Engagement (ROE) make AA:O a game that contrasts the most popular FPS of all time, Counterstrike. 'Bunny hopping', continuous jumping to avoid enemy fire, respawning, unlimited ammo, shooting while running, the lack of training and unrealistic environments and scenarios are absent or reduced to a minimum in AA:O. Along with a significant slower pacing and the obvious fact that it is a free game, these are all characteristics that appeal to many gamers. As one AA:O player eloquently argues:

> "If you want a game with grenades that go
> "bang" between your legs, try Counterstrike. But
> if you want a game that blows your balls off,
> than play AA" 22.

The goal of a mission means always completing an objective, which may be turning valves, crossing a bridge, or preventing the opposing forces to complete their objective. The virtual space of AA:O consists of seventeen realistic modeled maps, differing in objective, size and location, ranging from desert to mountainous to urban terrain. When entering a server a player has to choose which side he wants to play on. Regardless which side is chosen, one is always playing from the perspective of an American soldier and accordanly views the enemy as Opposing Forces (OpFor). Missions can take up to twelve minutes and when a player is killed in action, (s)he will not re-spawn and has to wait during the remainder of the mission.

[21] Schmitt, B. and Simonson, A.
Marketing Aesthethics: the Strategic
Management of Brands, Identity, and Image
New York: The Free Press, 1997 (p. 16)

[22] Signature of the forum member
(CYBA)JakkedUptron*****

Points are awarded when a mission is successfully completed or when an opponent is killed. Points will be lost when a player loses a mission while being a squad leader or violating the ROE - killing a member of the same team. Violating the ROE results in losing points or immediate expellation from a server, subsequent violating the ROE will result in banning an account. A certain amount of points is needed to raise one's Honor, a persistent statistic which gives other players a hint of a gamer's skills and dedication. This system turns out to be an effective way to stimulate gamers to extend play time, especially for male gamers, who are known for their goal-orientedness. By reducing luck to a minimum through training, players can improve their skills and gain experience, expertise and thus status. One can only imagine what will happen when AA:O will start offering additional features representing the level of skill, dedication and progress, i.e. a medal system.

The playerbase of AA:O and its surrounding community consists almost solely of (young) males. The apparent military and masculine character of the US Army rings through in AA:O, a masculine construct made by men and played by men[23]. Male gamers are known for their preference for action games, military content and weapons. Gamers demanding female avatars are silenced with the simple argument that women are not allowed in armed combat such as displayed in AA:O and for the sake of realism, female avatars are discarded and discussion about it results in flaming and female bashing.

Audiovisuals

Great efforts are made to produce the highest sense of realism. Because of AA:O's place within the MOVES Institute, developers have a great amount of expertise at hand and have direct access to Army sites, weapons and equipment after which a great deal of the audiovisual material is modeled. Weapon handling, such as weapon clearance and reloading procedures, is modeled after official Army procedures. Besides communicating through text and sound players can also use authentic hand signal animations. The games´ visual style therefore can be described as three dimensional photorealistic while avoiding the photorealistic sub style of illusionism as much as possible (Järvinen, 2003). The auditory elements present in AA:O are used to further immerse gamers into the virtual battlefield. Diegetic sounds consist of onsite recordings of weapons and ambience and US Army personal is used to impersonate the voice of non-player character, like the drill sergeant in basic training and the in-game communication system. AA:O is one of the first games that fully supports Dolby 5.1 and also Creative's EAX 3.0 is used to further enhance auditory realism by enhancing spatiality and help gamers become more 'situationally aware'. To enhance realism even further nondiegetic sound is completely absent. Many players laude the efforts of this pursuit and stress the fact that AA:O's photorealistic style adds significantly to the creation of realistic engaging experiences.

[23] Nieborg, D.B. Good Job Soldier, A gender analysis of America's Army (draft, 2003)

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Basic training

A player can choose between official Army servers or private servers to play on. Official servers are monitored and players can ask an Army Game Administrator (AGA) 24 hours a day to solve their problems, such as other players' bad behaviour and use of derogatory language or slander, which is ground for removal. After installing the game, players have to first register themselves, supplying a unique username and their email address for activation. After registering as an AA:O player, one is obliged to go through the single-player part of the game: basic training. This functions both as a tutorial and it depicts real-life basic training, all training parts are companied by a short explanation of the training and the history of it's real life counterpart. Just like real recruits who must complete basic before joining Army units, gamers must complete training courses to advance in online multiplayer missions. Many curious players will experience the realistic approach of this training when they fire their weapon prematurely or in the wrong direction (e.g. the drill sergeant) and have to start all over. In order to unlock certain maps and features one has to go through additional training levels, such as advanced marksmanship (sniper training), the Airborne School and medic training. Thus, the structure of the game advertises indeed gamers on the Army's policy and services that may be expected when joining the Army!

Clans

The "Army of One" slogan is fitting AA:O like a '*insert hilarious comparison here*', emphasizing and enforcing teamwork through various gameplay elements. Going at it alone not only will make it more difficult to complete objectives, i.e. to win, teamwork is also one of the cornerstones of the ROE. Ignoring orders from the leader of a squad is ground for removal from a server[24]. The need for teamplay and the militaristic structure of the game motivates aficionados to get organized to both survive and win; a good example of this phenomenon are clans. Clans are the virtual equivalent of a sports team, differing in size, nationality and involvement. Clans are hierarchically structured and many clans follow the same philosophy, structure and training principles of the US Army. And just as in the US Army, AA:O enforces in-game social interaction by ways of interpersonal dependency. The emphasis on teamplay, along with different weapons and roles, and environments demanding co-ordination, may result in the heightening of player interaction (Manninen, 2001). This heightened player interaction is accompanied by the games' way of dealing with 'dead players'. Because of the fact that using *deadchat* is the only occupation a player has when he is not playing, besides watching other gamers play, there is a considerable amount of player interaction, which often results in spreading the symbolic capital of the game which further accomplishes one of the major purposes of the game, supplying people with the needs to talk about the US Army and military related subjects in a relatively controlled environment.

[24] See http://www.americasarmy. com/rulesofengagement.php

One of the most distinct elements of AA:O is its pursuit of realism, which rings through in all elements of the game, i.e. the gameplay, audiovisual style but also offgame elements like registering results in a personal jacket. One aspect of AA:O, in line with the games' main purpose, recruiting, is far from authentic; the representation of killing one's opponents. The so-called 'blood and gore' factor in AA:O is very low for a FPS. Dismemberment, bleeding soldiers and auditory enhancement of dying soldiers are absent. Compared with a game like Soldier of Fortune II: Double Helix (Raven Software, 2002) the sanitizing of violence in AA:O becomes therefore even more apparent. The low gore level of AA:O in combination with parental controls resulted in a Teen rating for the game, making it accessible for a wider public.

COMMUNITY BRANDING

"Commercial game culture is structured to harness innate human behaviour: competition, collaboration, hunger for status, the tendency to cluster, and the appetite for peer acknowledgement"[25].

Hagel and Armstrong (1997) published a comprehensive study that connects the emergent properties of online communities with new paths of e-business. It shows how businesses tap into virtual communities by either aggregating people in a community initiated by a corporation or by using existing virtual communities for their own benefit. It is important to frame the way a community is organized in order to study how it evolves, the patterns that are formed and the way in which collective behavior is driven when one wants to examine the relationship between online brand marketing strategies and entertainment forms that serve as advertisements, referred to as advertainment (Watts 2003).

AA:O has given way to an online community that is initiated by the US Army on www.americasarmy.com. AA:O exists of several community clusters that give way to the US Army brand culture. The community consists of 'developers' (can be reached via email, the official forum, or IRC), 'moderators' (for forums and AGA in-game), beta testers, and the gamers. On the one hand, there are the clan members who can be recognized by their tag in front of their name. On the other hand, AA:O has regular players as well as Army servants (reserve) who can be identified – just like the beta testers – by an in-game star. The most important communication channel where these clusters communicate is the official forum where everybody – i.e. in-game officials and gamers - can post and respond to messages. The official forum[26] had by mid-August 2003 over 95.000 members, who have posted about 890.000 messages. The site also hosts, among others, a support section, a web log (by a US soldier who is currently serving in Afghanistan[27]) and announces LAN parties.

As outlined earlier, the game itself is hierarchically structured and does not leave much, if any, room for

[25] Herz, J.C. Harnessing the Hive: How Online Games Drive Networked Innovation. Release 1.0 20, 91 (18 October 2002).

[26] See http://www.americasarmy.com/ forum/index.php

[27] See http://www.americasarmy.com/ features_weblog.php

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in-game activism such as the creation of modifications to provide the community with skins, maps, extra weapons and the like[28]. However they do offer players the opportunity to give feedback on the message boards on the official website and regular updates of the game are made available. Despite this, the game misses the ingredients games like Battlefield 1942, Unreal Tournament 2003 (Digital Extremes, 2002) and Half Life (Valve Software, 1998) have in offering players the possibility to modify. Modefications can give old games a new life and add replay ability[29]; Recently however, the Army has become more aware of the importance of its online community and comes up with new ways to participate. For instance, a 'recorded gameplay contest' where gamers have to record their gameplay on a thirty second to two minute video clip that is put on the web site or a 'desktop wallpaper contest' where gamers can submit their 'fan created' wallpapers, because the development team would like 'to see what kind of artists are in the gamer community'. On the community side there are many requests for official LAN parties, as well as an official statistics website and an official AA:O league.

Although not very popular, gamers can play AA:O for money against each other[30]. Far more popular among gamers is to get organized in clans. The idea behind clans is that it creates loyalty through the expansion of social aspects of playing[31]. Not surprisingly the AA:O community reaches far beyond the official site. There are many affiliated sites, both official and semi-official, and more importantly the many fan and clan sites. Generally, fan sites bring the latest news, host files, artwork and movies, conduct interviews with the official development team, and facilitate special events. A striking example is a Polish fan site[32] that organized an IRC chat session with Army professionals and a US Army recruiter. Another example of a fan site that has proved to be a valuable source and a huge success among AA:O players is ArmyOps-Tracker[33], a German-English website that tracks the official servers of AA:O. It provides players with statistical information derived from the game such as the amount of kills, deaths, points gathered, honor; it also shows the players who are at that moment online which can come in handy for friends and clan players. Since its release the website and its tracker system have registered over 50.000 members. With the advent of the latest patch ArmyOps-Tracker was no longer able to track the game servers which led to quite some upheaval throughout the community, urging the game developers to adjust server settings to ensure a proper functioning of ArmyOps-Tracker. This request was honored and signifies an increasing awareness on the side of the officials of the importance of the community for the success of the Army - and its creation of brand awareness - through the game.

The AA:O community also discerns clans that are very important in shaping the community, often in accordance with or sometimes challenging the boundaries of the game. The AA:O community clan

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28 See note [17]

29 Au, W. J. Triumph of the mod. Salon.com (16 april 2002).

30 See http://www.ultimatearena.com/games/home.jsp

31 See http://game-research.com/reports.asp Online Gaming Habits (2002).

32 See http://www.americasarmy.pl/?lang=2

33 See http://www.aaotracker.com

mean for gamers immersing themselves (even) further in the game experience and community. Clans fight against each other in special leagues. AA:O does not have an official league of its own (yet), but there are many clusters that organize AA:O tournaments and ladders. Like many sections of the AA:O community tournament sites are player-driven and therefore free of charge. One of the main general tournament sites is Teamwarfare League[34] (TWL), which has organized twenty AA:O ladders wherein several hundred clans participate, while the ArmyArena[35] is dedicated to AA:O tournaments only. Also, clan members tend to be more involved in making (clan) movies, creating works of art, and taking part on message boards to critically engage in discussions to improve the game and website (so-called 'cultural creatives'). As such they explore emerging ways of participation by engaging in the created brand experience. Even while players may not really care about joining the Army by the messages that are conveyed throughout the website and in-game, they do contribute to the come about of a brand culture.

AESTHETIC TOTALITARIANISM

In this paper we have attempted to sketch the corporate tendency to create engaging advertisements in the form of entertainment. It does not provide any answers but raises interesting questions regarding on the one hand, the cultural status of online entertainment-as-advertisement (e.g. are these types of advertainment part of an aesthetic experience or branding experience? Are they opposed or are they part of the same entity, or are they continuous? What is the cultural / aesthetic status of advertainment on the Internet), and on the other hand, regarding participatory culture in a commercially mediated environment (e.g. how do commercially structured ads and participatory networks fit and/or challenge the notion of participation and colloboration? What is the status of business-to-consumer, consumer-to-consumer, and peer-to-peer in a commercially structured network? What does that mean for the brand and the branding experience?).

The US Army brand is the provider of aesthetic game experiences; it offers an appealing destination where the Army institution, its representations and gamers intersect. The properties of the Internet and the elements of the game design give way to an interaction with the players that drive brand awareness by associating the game with the military lifestyle - by creating interactive, engaging experiences the game gives way to an informative brand experience which hopefully leads to joining the Army – and forge a memory that inspires brand loyalty, i.e. returning to the official websites. This tactic of the US Army to use AA:O for promotion purposes through aesthetic marketing means foremost creating loyalty[36], but also cutting through information clutter, affording protection from competitive attacks, and saving costs while increasing profits. By creating transient images through AA:O the US Army is among the main players to link its commercial goals with a cultural text, resulting in ever-changing consumer experiences. Indeed, Michael Zyda (MOVES)

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[34] See http://www.teamwarfare.com

[35] See http://www.armyarena.com

[36] The self-evolving, self-aggregating culture that comes about, based on visual design and gameplay, shapes a brand-loyal culture that consists of various community clusters (e.g. clans, jammers); these are 'spin-offs' that are directed towards a more diversified play of the game such as tournaments and fan sites.

poses an intriguing question when addressing AA:O's success: "What if the game rebranded the US Army into 'America's Army'?" [37]

ACKNOWLEDGMENTS

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27.VIDEOGAME ART:
REMIXING, REWORKING AND OTHER INTERVENTIONS

Grethe Mitchell

Andy Clarke

ABSTRACT

This paper explores some of the areas of intersection between videogames and both digital and non-digital art practice. By looking at examples of art practice drawn from videogames, it outlines some categories and so provides an overview of this area, placing it within the wider context of contemporary and historical art practice. The paper explores the tendency for much of this work to have elements of subversion or "détournement", whilst also identifying areas of tension in the appropriation of videogames as material for art practice

KEYWORDS
Videogames, art, digital art, appropriation, subversion, patch, mod, machinima

INTRODUCTION

Most people's first contact with a computer is through videogames. They are the meme by which computers have entered our collective psyche. The iconography of videogames has become part of our "shared cultural capital" - the set of icons that people can reasonably expect their audience to recognise. People will recognise Lara Croft in an advertisement even if they have never played any of the games featuring her character. Similarly, they will know about *Space Invaders* or *Pacman* - and have some idea how to play them - even if they have never seen the original games.

In addition to this, videogames provide a rich vein of exciting and relevant issues. Sherry Turkle was amongst the first to formally study the issues raised by videogames in her book, *The Second Self* [1], where she interviewed children about their attitudes to computers and computer games. But although the increased familiarity of society with computers has - as she predicted - made questions such as "is the computer alive?" less problematic, new issues have replaced them. In relation to videogames, these include the following: Where (and what) am I when I play? When I die in the game, who or what dies? What does death mean? Who do I play against?

Given this combination of factors, it is not surprising that videogames have increasingly become an area of creative inspiration and exploration. In this paper, we intend to explore some of the areas of intersection between videogames and art, trying to map out some key issues in the construction and interpretation of digital and non-digital art that uses, or is inspired by, video-

games. We are not, on the whole, making value judgments about this work in relation to other forms of art (or digital art). In stead, we are tracing out the territory and the modalities of these artistic practices. From this, we will draw conclusions and indicate some interesting areas of activity requiring further research.

DEFINITIONS

We have chosen, for the purposes of the paper, to interpret the term "art" broadly and include in it all forms of creative practice involving or referring to videogames and game culture. Our discussion therefore also covers areas of practice which would normally come under the category of game hacking and fan art.

But this is not to say that we regard everything as appropriate for inclusion in our discussion. The emphasis of this paper is on "alternative" or non-mainstream practitioners, and we therefore feel it appropriate to exclude commercial videogames from our discussion. We acknowledge that the discussion of art in mainstream videogame practice is a fascinating and complex debate, but it is not one that is within the scope of this paper. However suffice to say that, although a number of the artworks covered in this paper refer to commercial videogames such as *Space Invaders* or live "parasitically" as modifications of games such as *Unreal*, this does not, in our opinion, necessarily make the original videogame "art".

We also wish to exclude from our discussion the work of artists such as Toshio Iwai, whose interest is in the creation of wholly original videogames for use within a gallery setting. Again, we acknowledge that this is a fascinating issue in itself, but it is not one that we will cover with in this paper. We are not excluding all gallery-based work from our discussion, but wish to make a distinction between the work of artists such

as Iwai, which is typically described using terms such as "audio-visual installation" rather than videogame, and that of groups such as Blast Theory, where the relationship with the world of games and videogames is explicit, acknowledged, and intrinsic to the work. The distinction that we would like to draw here is between videogame art and playable art. Videogame art is art that refers knowingly or explicitly to videogame culture, iconography, etc., and which therefore requires a familiarity with both areas. This is covered in our discussion. Playable art, on the other hand, does not refer to the world of videogames, and can be understood solely within the context of art history and contemporary art practice. This is excluded from our discussion.

There is a clear parallel between our exclusion of playable art and our exclusion of commercial videogames. In the same way that playable art can, for the most part, be understood solely within the context of art history and contemporary art practice, so commercial videogames can be understood solely within the context of videogame history and contemporary practice in videogame production. Although we will make reference in passing to both commercial videogames and playable art, the emphasis of this paper is on other areas of creative practice involving videogames.

It should also be noted that we use the term "videogame" in this paper as a catch-all term that encompasses arcade games, computer games and those for games consoles (such as the Playstation or Xbox), and that our choice of this word should therefore not be interpreted as favouring any particular delivery platform or genre of game.

GENRES

Despite this broad definition of videogame art, it is still necessary to have some system by which to

group disparate works, and thereby allow us to identify common formal and thematic concerns. But rather than divide this area solely on the basis of the type of work produced, we have found it more useful to have categories which group them under broader themes.

We therefore propose - for the purpose of this paper - to group artworks under the following categories:

• Remixing - the use of videogame iconography in other media (either taken and manipulated digitally, or reproduced by hand).

• Reference - the creation of original games which make knowing reference to previous games. As we state before, wholly original games produced as art fall into the category of playable art and are excluded from our discussion; commercial videogames are likewise excluded even though these often make knowing reference.

• Reworking - the modification of existing games, often to create new interactive environments or "machinima" (non-interactive movies).

• Reaction - performance (often disruptive or ritualistic) within a multiplayer game.

This system of categorisation has a number of benefits. Firstly, as we are making distinctions that are based more on the intention of the artist than on the specific techniques or technology used, they form a framework which is less likely to require us to add new categories as new forms of practice emerge. This is a fast-developing field where much of the most innovative work emerges "from the street" and it therefore requires a theoretical framework which is flexible enough to keep up. Secondly, grouping works in this way often brings disparate works together in surpris-

ing ways and these contrasts can often bring to the forefront issues which might otherwise go unnoticed.

In the following sections of our paper, we will work through the categories described above, using them to identify issues within videogame art. But in the same way that there is an overlap between the categories that we have defined for ourselves, so there is an equivalent degree of overlap between the issues that arise from the discussion of them. The issues that we raise should not be regarded as exclusive to any one genre - we merely chose the point in our discussion where the issue was thrown in the clearest focus, and they apply to all forms of videogame art.

REMIXING

As we mention in our introduction, videogame icons and aesthetics are part of our shared cultural capital. It is inevitable therefore that creative practitioners will take these icons to use directly as raw material in the creation of their own work. The Aphex Twin track *Powerpill Pacman* is a clear example of remixing - here the musician has sampled the music and effects from the *Pacman* videogame and used them to produce a dance track. The *All Your Base* shockwave is a similar example, involving the appropriation of both dialogue and graphics from *Zero Wing*.

But in addition to these works, there are those where the imagery and iconography of the videogame has been reproduced by hand in other media, rather than being sampled, captured and manipulated digitally. A common example of this are the paintings, drawings and 3D renderings done by fans of the characters in videogames, but other forms include the creation of game-influenced cross-stitch [2], the writing of fiction stories featuring game characters [3], and even the creation of treehouses based on the giant battling robots of Mechwarrior [4]. It goes without saying that illustrations include nude versions of the

game characters and some of the fiction is erotic or homo-erotic [5]. The homo-erotic ("slash" fiction) includes both *yuri* (FF) or *yaoi* (MM) couplings.

It is tempting, particularly with the illustrations, to create a new category for this other work - calling it "reproduction", for example - but to do so is to miss a number of important points. Firstly, the characters from early videogames such as *Pacman* or *Space Invaders* typically consist of less than 16 pixels by 16 pixels, making it trivial to reproduce these iconic figures perfectly by hand. When the artists behind space-invaders.com reproduce the characters from *Space Invaders* by sticking bathroom tiles to the outside of buildings, they are, after all, producing an exact pixel-perfect copy of the original graphics.

Secondly, it is useful to think of this fan art as a "cultural remix". In the same way that hand-painted movie posters from Ghana [6] juxtapose Hollywood and Ghanaian aesthetics (and reveal something about both societies), so these works show the world of the videogame reflected through the attitudes of those producing it. The result is a fascinating multi-layered mix of styles and signification.

Thirdly, it is useful to think of some of this work as a "remixing" of reality as both spaceinvaders.org and the mocked-up photographs of *All Your Base* show the videogame world "escaping" and "invading" the real. This tension between the videogame world and the real world is particularly strong within the genre of cosplay [7] - where people create costumes based on videogame and manga characters - as it is heightened by there being two opposing notions of "realness" at play in these works. The cosplay artist tries to look as similar as they can to the original character, but this is impossible when the original is a character from a cartoon or a videogame: the more real their costume looks, the more the realness of the

person in the costume stands out as the jarring element.

This highlights the complex relationship which exists in all of these works between the original source material and the work that appropriates it. There is a resonance set up in the viewer: a simultaneous recognition of the familiar and a noticing of the different. In some works, such as *Powerpill Pacman*, this is quite simple - the *Pacman* theme has been speeded up to make it even more manic than the original - but in other works, the relationship is more complex.

The resonance and tension between the primary (original) work and the secondary (the copy) is often heightened by the fact that this is often *unauthorised* appropriation. The significance of this unauthorised appropriation is emphasised if we widen our discussion out for the moment to look at the appropriation of manga characters (i.e. those from Japanese animation), rather than that of videogame characters. We can see quite clearly then that the appropriation that takes place in manga-influenced cosplay, for example, is fundamentally different to that of the *No Ghost, Just a Shell* artwork - and arguably more interesting. The character of Ann Lee was licensed by the artists Pierre Huyghe and Philippe Parreno and is now, in effect, being re-licensed by them to the artists producing "official" Ann Lee artworks. This contrasts with cosplay - and other forms of fan-driven art - where characters are taken without permission and the relationship between the original and the copy remains one still filled with tension, resonance and meaning.

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REFERENCE

In the previous categories of work, the artists involved have appropriated the aesthetics and iconography of the videogame, but discarded the game itself - there is no game, only the iconography of the game, taken and used for some other purpose. There are, however, a large number of artworks that take the opposite approach: they keep the gameplay but throw out everything else, and the original game - still recognisable - is then used as a vessel into which other meaning is "poured". Examples of this type of work includes Tony Ward's *Alien Invasion* (using *Space Invaders* to comment on multiculturalism in Britain), Thompson and Craighead's *Triggerhappy* (using Space Invaders to comment on contemporary philosophy), Mauro Ceolin's *RGBtetris*, *RGBatari* and *RGBinvaders* (using *Tetris*, *Breakout* and *Space Invaders* to comment on globalisation) and Jim Andrews' *Arteroids* (using *Asteroids* to comment on poetry and language).

In this list, we are only touching the surface of this very popular genre of work. Even so, it should be obvious that the same videogames keep being used, with *Space Invaders* being by far the most popular game referred to. There are technical reasons for using these early games - they are simpler than modern games and it is easier to copy their graphics and interaction - but these are not the only reasons: these vintage videogames also provide the artist with clearer, more recognisable, and less problematic icons than those found in contemporary games. Even now, the *Pacman* and *Space Invaders* characters are more widely recognised than Mario, yet they carry none of the "brand baggage" of these more recent game icons. If we look at these characters in terms of semiotics, Space Invader "means" videogame, while Mario "means" Nintendo.

There are, however, issues regarding the sustainability of this genre as these works, by their very nature, tend toward repetition and (self-)parody. Yet, even so, certain works - such as *Triggerhappy* by Thompson and Craighead - stand out. *Triggerhappy* presents a version of the game Space Invaders, but rather than defending against wave after wave of aliens, players must shoot up a series of text extracts taken from Foucault's essay, "What is the Author?" When looked at from the viewpoint of computational semiosis, this playful and nostalgic appropriation of the videogame reveals layer upon layer of playful self-referentiality - meanings within meaning, puns within puns. There are ironies everywhere - the player must kill the author (or at least their text, which talks about the death of the author). Even the idea of the game is a pun - "a play on words".

Desert Rain, by Blast Theory, is another work within this genre that stands out. It may seem odd, at first, to group *Desert Rain* and *Triggerhappy* together, but it is consistent given that both are referring to previous videogames: with *Triggerhappy*, it is *Space Invaders*, while with *Desert Rain*, it is the FPS genre in general.

One particularly interesting aspect of *Desert Rain* is the way that it is, in fact, two parallel installations: one which exists in the real world and one which exists in the virtual. The boundary between these two worlds is - quite literally - fluid, as the virtual world is projected onto a screen made out of falling water, and the artwork is therefore able to shift focus between the two worlds in a sophisticated way. When a figure emerges through this screen to give an object to the viewer of the artwork, they are not only "escaping" from the game as we have described before, but they are also transferring meaning from the virtual world to the real. In the context of this particular artwork, this is a very effective technique.

REWORKING

Although the works in the previous category take their inspiration from pre-existing videogames and seek to replicate their gameplay, the creation of these games typically requires the artist to recreate and reprogram the original videogame again from scratch. This inevitably involves the duplication of effort and for anything but the most simple of games also requires programming skills beyond the average artist - in the case of the *Desert Rain*, for example, Blast Theory worked with the Communications Research Group at Nottingham University, UK, who did the programming work.

Such resources are not available to all, and it would naturally be far easier to work with the original videogame and modify it. This brings us to our next category of work: reworking. This category of artwork relies upon altering either the code that the game uses to run or the data that it uses while it runs. As we will discuss later on, this type of modification can be done on a variety of games, but is most common with the "first-person shooter" (FPS) games such as *Quake*, *Unreal*, etc. The techniques used with these games tend to fall into four distinct categories: patches, skins, maps, and mods. Patches are alterations to the code of already-existing games. In the context of the FPS game, this is often to change the physics of the world, the abilities of the player, or the behaviour of the monsters, or to add new weapons or functionality to the game. Skins are new characters, and maps are new environments. By combining patches with skins and maps, it is possible to come up with extensive reworking of these games which can, if taken to its ultimate degree, render it almost unrecognisable in relation to the original. This package of patches, skins and maps is often called a mod (short for "modification").

Most of the patches, skins, maps and mods produced are done simply to expand the scope of the original games: a player may, for example, create a skin to allow them to play the game as a character from *The Matrix*, produce a mod that gives them a new type of weapon, or simply create a new map to give them a new arena in which to play the game. But one problem in looking at patches and skins as art is that it is often difficult to make the distinction between those made to enhance the game, those made to subvert it for fun, and those made to subvert it for artistic or political ends. For example, how do the nude skins created by Linda Erceg "analyse the importance of viewer perspective in pornography" [8] while those of pornstar Asia Carrerra or the nude hack of Britney's Dance Beat [9] don't, and on what sustainable basis can we make this distinction?

The situation is somewhat easier with maps, where there is a clear distinction in terms of function: some you enter to kill other players (and be killed), while others you enter to experience as an artwork. One can think of the latter as being analogous to that where a room in a gallery is transformed to create a site-specific installation. There are, however, a number of advantages that these works have over real installations, the most obvious being that the installation itself is not limited by space or budget.

It is interesting to see how few of the works in this genre are multi-player environments, given that this capability is built into the original game engine. One reason for this may be that the artist has little control over where the person entering their virtual environment goes or what they do, see or think, and as a result, it is difficult for them to create an interactive environment that provides a coherent experience for one person, let alone one which makes sense with/for multiple participants. An exception to this is Fuchs and Eckerman's *Virtual Knowledge*

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Space - a multiplayer environment (based on the *Unreal Tournament* engine) created to house networked objects from the collections of different Viennese museums.

The best work in this genre are those which play to its strengths of the FPS as a medium (the ability to create fantastical environments) and work around its limitations (the limited interaction possible with other characters, for example). There also needs to be an appropriate matching of form and content. *Adam Killer* is a good example of both of these. It explores the nature of death in virtual environments and does this through removing the reason for killing but not the ability to kill. As a result, the only action available to the user when faced with a roomful of passive figures is to kill (or do nothing).

There is, of course, no need for these works to be playable if the intention of the artist is to deconstruct the videogame. *Adam Killer* exploits glitches in the code to produce psychedelic trails and "hall of mirrors" effects, while *SOD* and the *Untitled Game* series by Jodi take the same ideas to its extreme becoming, like much of their other work, formal experiments in abstract visuals. *Gameboy F_UK* by Corby and Baily is another example of a deconstructive patch, featuring a Gameboy emulator that has been patched and recoded so that it degenerates over time: sections of the binary code of the game are presented on the screen, while the graphics likewise overwrite sections of memory, making the game function less and less well.

Gameboy F_UK is interesting in that it highlights the fact that while the modification of FPS games may be the easiest and most popular genre patch art, they are not the only form of it. Another interesting thread of artistic practice is emerging around *The Sims*. Although there are works such as *White_*

Picnic_Glitch by Brody Condon which, like his work with the FPS, deconstructs the videogame from within, these are relatively uncommon, possibly because the game engine of *The Sims* does not encourage or facilitate this sort of extensive hacking (though it does support the creation of objects to use within the game).

There is an area of activity that spans both FPS and The Sims, and this is the appropriation of these as storytelling media. In the FPS, this activity is termed "machinima". These use the same techniques as works such as *Adam Killer* - patches, mods, maps and skins - but to radically different effect and purpose. Here the intention is not to create a playable game, but to use the game engine to produce a non-interactive movie which is either viewed within the game engine or captured and viewed as a film/animation.

The equivalent activity in The Sims is the creation of "albums", where players construct scenes within *The Sims* and take screengrabs to illustrate stories. While many of these stories [10] are genre-based - soap operas, romance, superheroes, etc. -, others are of a more personal nature. These include examples of people using these albums to "work through" personal tragedy including death, loss, divorce, drug-addiction, and abuse (both physical and sexual). In addition, there have been a number of works based on or around the events of 9/11 [11].

The notion of making films within a FPS game engine is an interesting one as it not only offers a low-budget tool for doing 3D animation, but also provides a new way of doing it - not through painstakingly defining keyframes and rendering a sequence, but rather by "acting" within a 3D space while your movements are rendered in real time. The problem is, however, that other aspects of the machinima process - such as clothing your character or creating

the sets - are complicated and time-consuming and this limits the production of machinima to those with the necessary skills and resources. This contrasts strongly with Sim albums, where their production requires no more skill or knowledge than playing the game (and because the game is very much centred around constructing and participating in scenes, it is very much a natural outgrowth of the gameplay).

One also finds that because of the nature of the machinima community, the emphasis is often on producing the best and the flashiest work, rather than the most meaningful or engaging. Again this contrasts with the Sim albums - because the game draws upon our need for the world of *The Sims* to parallel our own or to express our dreams, it encourages a level of emotional engagement not present in the FPS (and consequently not yet found in machinima).

But there are, however, some people who are using FPS to make films to explore more personal and political agendas - the problem is that the machinima "phenomenon" has, in many ways, shifted attention away from them. "Machinima" has become, as a term, associated with the more mainstream work of groups such as Ill Clan and Strange Company, and it therefore does not seem an appropriate term to use in relation to the work of fringe practitioners such as Tobias Bernstup. There are, of course, differences in the modes of production, presentation and consumption of these two types of work, but these have to be acknowledged rather than using the umbrella term of machinima for all FPS-based animation, as some commentators have tended to do.

REACTION

The emergence of networked multiplayer games such as *Quake*, *Unreal* and *Half Life* (which can deal with dozens of players), and of the so-called "massively" multiplayer games such as *Ultima Online*,

Everquest and others (which can deal with hundreds or thousands of players) have lead to the emergence of another new form of artistic activity involving videogames: the artistic intervention in the world of the game.

This is not a new phenomenon, however, and can be seen as a variation on the type of performance that occurs within other forms of online 3D and text-based virtual environments. The difference is that in these other environments, the emphasis is, for the most part, already on free-form expression, role-playing, and performance. This contrasts with the world of the multiplayer game where the players have, to a greater or lesser extent, a reason for being there and a mission that they need to be getting on with (though in the case of the massively multiplayer games, the goals of the game may be quite diffuse). Performance in a multiplayer game is an intervention *into* the game, while performance in an online environment such as AlphaWorld is something that emerges more from *within* its milieu .

Gunship Ready, by Brody Condon, is an interesting example of an artistic intervention in a videogame. Designed as a modification of the online game *Tribes*, this work provides a flying gunship within the world of the game. The players are beckoned by the artist to climb onto this vehicle, but when they do, they find that they are taken on a tour around and eventually away from the battleground. They have been kidnapped (by the artist), rather than, as they thought, being taken to more exciting battle. Having been abducted, they are presented with the situation where they must kill themselves (in the game) in order to re-enter the action.

Brody Condon uses his intervention to explore issues surrounding the different value placed upon death in the real world and the game world, a theme common

to much of his work, noting that the players have no problem with killing themselves in order to get back to the main business of killing other people. But if the game world is, in this way, so self-evidently devoid of significance, one could question whether the intervention in that world is similarly drained of significance and becomes, quite literally, an empty gesture. Do the players witnessing Condon's intervention from within the game question the nature of death to the same extent that we do as outside viewers of it?

But this is not to dismiss this work - or this genre of work - completely, merely to highlight some of the issues that arise from this type of intervention. Performance within a virtual environment is an interesting territory to explore, and attracts a great deal of activity within the field of dance and technology, for example. It may therefore be that the particular issues surrounding intervention and performance within a game space just need more exploration. Particular attention needs to be given to how the intervention or performance is contextualised for the viewer, so that it is not seen by them as being just a bug or someone "messing around". The nature of the observer - as unwitting witness, co-participant, or outside observer - needs to be considered.

COMMON THREADS

Because of the limitations of space, we have managed to explore only a comparatively small number of artworks here; even so, these cover the main genres of practice in this area (as defined in our introduction) and through our discussion of them, we have introduced a number of the key issues in videogame art. In this section, we intend to pick up on some of the most significant of these themes and develop them further.

We will start with appropriation as this is, in many ways, the defining feature of videogame art - without appropriation of some sort, a work falls into the category of playable art (as defined in introduction). Corby and Baily have described their work *Gameboy F_UK* as a "readymade" as it takes and uses the pre-existing code of the emulator and the original game. While the use of this term isn't entirely accurate in relation to this work (the code is modified extensively by them, rather than presented "as is"), the concept of the readymade is, nonetheless, a useful one to bear in mind when looking at videogame art in general. In all videogame art, something is appropriated: the graphics, the gameplay, the conventions of the interface, etc.

But with videogame art, we are usually talking about *détournement*: appropriation tinged with subversion. The work of Brody Condon (Adam Killer, White_Picnic_Glitch and Gunship Ready) appropriates the form of the videogame, but subverts its content, using them to criticise the conventions of videogames from within. SOD and Gameboy F_UK, on the other hand, subvert the form of the game, making it unplayable so as to explore formal issues regarding the nature of code.

Machinima is an interesting case with regard to subversion. They appear, at first, to be the most conventional form of the videogame art - being, after all, just animated films - but they can be seen, in many ways, as the most complete subversion. Here the very *raison d'être* of the videogame - the fact that it is meant to be played - is subverted. The maker of machinima "plays" with the videogame, but not in the sense that it was originally intended. To those who produce machinima, the quality of the actual game is incidental. Their interest lies with the quality, style or speed of the rendering, or the ease with which the game engine can be hacked into and modified.

In some ways, this is the most complete subversion of the videogames, but a counter-argument is possible here. Are the makers of machinima - and those creating patches and skins - just playing their role within a system designed to create as much content (and publicity) for the games as cheaply as possible? Is their obsession with the latest and best and fastest simply serving the commercial interests of the games companies?

It is also worth noting that the creation of maps and patches tends, on the whole, not to represent unauthorised hacking into the game, but is rather an activity nurtured, encouraged and controlled by the makers of the games. An interesting comment on this comes from an interview with Jodi (Joan Heemskerk and Dirk Paesmans), where they explain why they used an old FPS (Wolfenstein) for their experiments in videogame art [12]. They said "there are also a lot of modification possibilities built-in in the new games but these are much more standard and stay within the general framework and the overall visual values of the game. With the older games, we can get deeper inside and make real contradictory changes or at least undress the rules, the visuals and the code as bare as we want." Although Jodi have specific aesthetic aims, this does highlight some issues about what parts of the videogame are exposed for manipulation by the artist and how far it can actually get from the original. Jodi have since produced work with other FPS (their *Untitled Game* series), but this still uses a comparatively old game (*Quake*).

Appropriation is both a strength and a weakness of videogame art. If one wishes to critique violence and gender stereotypes in videogames, for example, what better medium is there to use than to take an actual videogame and subvert it? But if, on the other hand, one wishes to explore a more sub-tle and complex idea, producing a *Citizen Kane*-like meditation on loss, for example, these game-related issues linger on, whether wanted or not - the viewer of the artwork will still be wondering "what do I kill?"

As we have mentioned before in this paper, this issue of the audience's relationship to the artwork is a fundamental one that videogame art needs to negotiate. Interactive art has, to a certain extent, turned the corner in this regard, so that when we experience Char Davies' *Osmose*, we tend not to say that we are "playing" with it. Many would, however, happily use this word in relation to Thompson and Craighead's *Triggerhappy*, and though this should clearly not be taken as indicating a hierarchy of digital art, with videogame art at the bottom as it is merely "play", it does indicate that there are some outstanding issues relating to the content of videogame art and the context in which it is produced, presented, received, and discussed.

CONCLUSIONS

The intention of this paper has been to outline the field of videogame art, to propose a system of naming and categorisation for this field which is flexible enough to allow for future developments, and to describe key works in this field. Having done this, it is now appropriate to draw together some conclusions and identify areas for further exploration.

If a criticism can be raised about videogame art, it is that it sometimes lacks sophistication - both in terms of the techniques that it uses and the ideas that it seeks to convey. We should be wary, however, of expecting the solution to this problem to come solely through technology - it is inevitable that videogames will become more technically sophisticated, but this does not necessarily mean that the art produced with them will likewise gain in subtlety and nuance.

Technology does not inherently improve a medium, though it can have this effect by allowing a wider, more expressive, vocabulary of techniques to develop. A useful comparison can be made here with cinema. Improvements in film technology have not directly helped cinema to become more expressive medium, but they have had a positive influence through allowing newer, more expressive, shooting techniques to emerge. The close up shot only emerged when improvements in lens technology allowed for a sufficient depth of field at close range to make it possible. The informal "fly on the wall" documentary style known as *cinéma vérité* was likewise only made possible through the development of smaller cameras, faster film stock, better microphones, etc.

Although we have deliberately avoided defining a "canon" of great videogame artists in this paper, we have described works which are successful on a variety of levels, and what is notable is how many of these adopt simple techniques, but use them well. Tobias Bernstup's short loops exploring issues of gender are more interesting than the 90 minute machinima blockbusters; Adam Killer is likewise more interesting that other larger and more complicated art mods, and what could be simpler than sticking bathroom tiles to buildings to reproduce iconic bitmap characters?

It is encouraging that successful videogame art is already being produced, but it is important that this success is nurtured in the appropriate way. All too often, videogame art seems like a "demo" - a short, flashy demonstration of technical skill designed to attract attention from one's peers - and while this is, in many ways, understandable given how few opportunities there are to exhibit this type of work, it is not a sustainable way for this field to develop in the long term.

Two things are necessary. Firstly, there needs to be more opportunities for this sort of work to be exhibited and the framing and context of the work shown need to be more sensitive and appropriate. Secondly, there needs to be more serious criticism and analysis of videogame art. Together these measures will lead to the emergence of a more sophisticated vocabulary of videogame art, a critical language more able to articulate issues surrounding it, and an audience which is more able to appreciate both the artwork and the analysis of it.

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28. WHERE HAVE ALL THE VIDEO GAME CONSOLE ARTISTS GONE?

Paul Catanese

ABSTRACT

This paper offers insight into the brief history of those artists whose work utilizes, incorporates or subverts the aesthetics and/or technology of video games. It questions why artwork that subverts consoles is seen less frequently than other emerging forms such as sampling, modifications (mods) and machine cinema (machinima). The paper concludes by offering an examination of obstacles which face artists creating console based subversion and points to these as the reasons why this emerging form is seen with less frequency than the others.

KEYWORDS

Art, Machinima, Mods, Console-Based Subversion

INTRODUCTION

For the past 25 years a revolution in video game aesthetics and technology has built an industry and raised a generation. There is a culture of video games that pervades the everyday. It is a culture that is often hopelessly unaware of its history, but certainly not unaware of itself. We are at a moment as a savvy generation grown in the shadow of video gaming comes of age as artists. In video game culture the games are fetishized and the consoles are revered – a fact that has not been lost on these emerging artists. These artists are now creating work that utilizes, incorporates or subverts the aesthetics and/or technology of video games. While subversion of game technology and aesthetics has existed since the beginnings of this culture for reasons of pornographic nature, fan-games and piracy, these artists are experimenting with a unique blend of methods by which to comment on the nature and culture of video games. Through the exploration of various methods, processes and parameters these artists have envisioned a variety of unique emerging hybrid art forms. I will begin by offering an overview of the short history of these emerging forms in order to highlight what they are, some of the differences between them and how they are often incorporated into existing forms such as installation, multiples or performance.

The emerging forms which appropriate or re-contextualize game culture includes sampling, machinima, mods and console-based subversions. Of these, console-based subversions are seen with the least amount of frequency when compared to the other hybrid forms emerging as a counterpoint to video game culture. Yet, these works question the very objects of worship which exist at the thriving heart of the culture. Why are they not as wide-

spread as the other forms? I will address this question and offer a range of obstacles and difficulties that confront artists specifically creating console-based subversions in order to provide reasons as to why this is the case.

BACKGROUND

It can be difficult to draw a decisive line or point to a specific marker that speaks of the "first" subversion for artful purposes. Part of the reason for this discrepancy is that pornographic and pirate gaming have existed for quite some time. If one was to include the work of those subcultures then the history which I offer would seem hopelessly lacking. However, while the work of those involved in subversion for pornographic or derivitive reasons may be well executed, it is difficult to consider it artwork for the simple reason that the work itself is conceptually weak at best, was not created as artwork and does not consider itself artwork.

In this paper, the litmus test for inclusion is not for specific pieces, but rather on specific forms. The forms themselves are mutable hybrids which draw upon the video game dialect within the language of popular culture. There are several forms which I will go into detail to explain. Among these are audio/visual and conceptual sampling, mods, machinima, custom art games, custom emulation and console based subversion. I have chosen the strongest pieces representative of the given emerging forms so that the focus can remain on a discussion of the forms themselves.

Audio, Visual and Conceptual Sampling

Artists draw inspiration from the world around them. Video games exist within the context of a global cultural landscape, a fact which has not been lost on artists. DJ Spooky's 1998 *Riddim Warfare* is a hip-hop concept album which samples widely from Atari 2600 games. Some of the sounds are directly sampled from the Atari, others are highly manipulated. For those that have played early Atari games (*Pac-Man*, *Space Invaders*) there is an immediate recognition of these samples. Through the samples, the work refers to the video games, yet the album goes well beyond a simple commentary on the culture of gaming.

Another emerging form of audio sampling is performance based. Mark Denardo, a Chicago artist, plays music using combinations of Nintendo Gameboy, Nintendo Gameboy Color and traditional instruments. His use of the Gameboy is powered by custom software which allows him to control the samples, sequence and interface of the device, allowing it to function as a unique musical instrument. He is not alone in this pursuit; other musicians which utilize the Gameboy as a musical instrument include Bitshifter, 8Cylinder and the Gameboyzz Orchestra Project.

Other artists sample directly from the visuals of classic games. The digital video based artwork known as *All Your Base*, began circulating on the internet mid 2000 and was subsequently catapulted to the status of pop-culture phenomenon. This humorous work draws upon linguistic inconsistencies born from poor translations of a Japanese game into English. This piece has been widely documented, but I include it as a shining example of the wider phenomenon of artwork which refers to video games in order to provide commentary, humor or other insights. The authors of this work are not entirely known and additionally it is not particularly clear that the intention is one of creating artwork. However, the cult status that this work has achieved makes it a worthwhile example representative of a wide variety of visual game commentaries.

Alexander R. Galloway's *RSG-SMB-TAB* clearly has the intention of being artwork. This piece was commissioned by the Whitney Museum of American Art

for their web-presence Artport. The piece consists of two distinct parts: A collection of text files and videos. The text files are tablature, a short-hand musical notation style, but in this case, the tablature has been written for a Nintendo Entertainment System (NES). If played faithfully, the tablature is the "score" of how to win the NES game, *Super Mario Brothers*. The tablature archive is organized by game level and each is accompanied by a corresponding digital video. The videos are taken from a single, fixed-camera position above the hands of a game-player who happens to be playing *Super Mario Brothers*. In the background, one can make out the sounds of game-play that clearly demonstrate that the faceless game-player is in fact winning the game level using the tablature.

In these examples of work which samples from the audio, visual or conceptual structure of games, the level of technical understanding of game hardware or its creation is not addressed directly in the work. In this way, sampling provides an immediate method of referring to and commenting on games without requiring the creation of a game or, hacking commercial code or the disassembly of actual hardware.

Mods

Beyond sampling from games and synthesizing new experiences from those samples, some artists have turned to modification of existing games themselves in order to create new works. These mods emerge from specific game architectures although the end result often looks nothing like the original. Mods have been an ever present source of work in video gaming since its roots, although the earliest modifications exist solely as fan-art, pornographic or derivative games.

Some modifications have been made without the consent of game developers by reverse engineering

or otherwise hacking commercial code. In addition to creating mods via hacking, there is a trend among 3D game developers to make tools available for game fans allowing them to customize their favorite games. It is a method to further instill brand-loyalty (as if having individuals play their games for hours at a time is not enough). The tools made available for fan-games allow gamers to create derivative works that can be shared with others. Artists have taken to using combinations of both of these methods to create original artwork. While some mods comment on the original game, in other cases the work is referential only to the engine itself.

In addition to distributing the mod via the internet for others to use, he uses this mod as a real time audio performance environment. Qthoth is an experiment in synthesasia, one which invites the viewer to explore a fractured visual surface infused with a localized three dimensional soundscape. As users explore the environment, the sound changes, so that users can actually "play" the environment like a musical instrument. Oliver uses *Qthoth* as a performance tool. Viewers can either download quicktimes movies created by him using *Qthoth* or they can download the mod itself to experiment, play and create compositions of their own.

Velvet Strike is the result of collaboration between Anne-Marie Schleiner, Joan Leandre and Brody Condon. This piece uses the *Counter-Strike* game engine to protest the methods used in the war on terrorism. This piece allows users to install anti-war grafitti inside of the online game. The *Velvet Strike* website manifesto is accompanied by "intervention recipes" which describe different tactics which online protesters can use to subvert the multi-player game by acting out of character while within the game.

Nullpointer's *QQQ* is a work created by hacking the code of the *Quake* engine. Rather than use tools

provided by the game development company to create a modification, Nullpointer subverted the code of the core engine itself, allowing them to create a unique interactive installation in which the actions of real-time online game players are transformed into a virtual art performance. The game players are unaware of their role in the artwork, making the piece a masterful execution of tele-present invisible theatre for the 21st century.

Machinima

Machinima is closely related to the creation of mods, but there are a few key points which differentiate this as a unique form. The first step in creating a work of machinima is often to create a mod of a game. However, machinima is watched by the viewer, rather than played as a game – more like a movie. The mod is created so that the authors can use the game engine to act out parts within the game universe itself using the characters in the game as if they were actors.

The final form is often either digital video, but other times it is a modification of the game application which is intended to run on its own, without user input. In the case of a digital video, the work is at least the same each time, but with modification-based machinima, there are often small subtle vagaries based on the specifics of the hardware which is used to run the application in the first place. Within the ranks of those who create machinima, there does not appear to be a hierarchy between these. Perhaps the best way to think about it is as low-budget cinematography.

One of the more prolific creators of machinima is artist Tobias Bernstrup. Among his earlier works is a piece entitled *Polygon Lover* which consists of a 20 minute looped video depicting a modified game character that masturbates for the camera.

Bernstrup's work is uncompromising and raw; utilizing mods which render characters nude or provocatively clothed while acting out sexual performances which question the nature of gender.

Another artist creating machinima is Feng Mengbo, whose 2002 work entitled *Q3* utilized the Quake engine. His modification allowed him to insert himself into the Quake universe where his character played the part of a war-correspondent in the middle of the turmoil of a battle. In addition to creating machinima, Mengbo has also created modification-based installations that places digital manifestations of himself within the universe of Quake.

Brody Condon's *Chinatown* is a site-specific installation made for an art gallery in the Chinatown district of Los Angeles. The mod is a careful simulation of a pre-gentrified Chinatown, designed to be run as an application rather than as a quicktime movie. The mod runs like a game, but interaction methods for viewers have been removed. Automated characters wander the environment and we watch them from third and first person cameras. They twitch and stumble through an environment in which violence has been removed, but which bubbles directly below the surface. Condon is currently an artist-in-residence at Franklin Furnace in New York City, where he is expanding this modification to allow players to interact within the game world that he has created via remote locations.

Machinima is one of the most pervasive forms of video-game subversion. There are simply too many examples to go through in detail but some of the other notable figures creating machinima are Strange Company whose *Matrix* and *Tum Raider* are considered by some as the pinnacle of this form. Droma Productions created *The Buff and the Beautiful*, a soap opera about homosexual gladiators

living in the game world of Quake – and any discussion of machinima would be incomplete without a mention of machinima.org known as the "academy" of machinima art.

Custom Art Games

The distinction between custom art games and modifications exists because custom art games are derived from the overall aesthetics or experience of a given type of video game but the technology or methods used to create the work are not necessarily directly derived from commercial code or hardware. In short, custom art games often subvert concepts but not specific technology.

A good example of a custom art game is Eddo Stern's *Cockfight Arena*. The work is presented as an installation/theatre piece in which viewers must be present at the "arena". The game is reminiscent of a whole sub-genre of head-to-head martial fighting games. Rather than pit two human or super-human entities against one another the fight is between two virtual chickens. Viewers wear custom wireless suits that allow them to control chicken avatars. The end result is a thoughtful, brutal experiment in performance art and audience participation. The commentary on violence, cruelty to animals and human indifference is immediate and interactive. What is particularly interesting about this piece is how far it extends from the games that it references and yet how entirely game-like the experience remains for the viewers.

Another example of a custom art game is *SOD* from the pioneer net artists, JODI. This work is derived from the "first person shooter" subgenre of action games. In particular, it is reminiscent of the techniques used to create *Castle Wolfenstien*, often cited as the original first person shooter. The graphic treatment of *SOD* is formal and modern; frequent foreground/background reversals in the eye of the viewer make it next to impossible to negotiate or understand the dimensional space which is being represented. The challenge in the game is not to stay alive but to figure out what you are looking at in the first place. Custom art games are not a particularly new form, although the references to video games present a new avenue for this form. Conceptually, many custom art games can be compared to mods, but the technology and therefore the process of creation is not the same.

Custom Emulators

Emulators are software applications intended to run on one machine in order to mimic the capabilities and functionality of another. There are emulators for operating systems, devices and machines. Among them, there are emulators for Mac and PC that allow users to play Gameboy, Atari and Sony games on their computers (though this list hardly scratches the surface). Specialized hardware is used to copy original game cartridges into files referred to as ROMs. A ROM is useless without the correct emulator and vice-versa. Theoretically, a game ROM and the game system emulator allow the user to play a given game on their computer. But because no emulator is 100% accurate in its mimicry of hardware, there are inconsistencies in the emulation of games ranging from visual annoyances to crashes of the system.

The goal of an emulator is to create a tool which mimics game hardware 100% of the time in spite of the impossibility of doing so. With custom emulators, the goal is to create a tool capable of "rendering" game ROMs in such a way that is not the same as on the original hardware. An example of this form is Corby & Bailey's *gameboy ultraF_ck*.

This piece allows users to load ROMs from any gameboy game. However, the emulator renders these

games in ways which were not intended by the creators of the games. Specifically, *gameboy ultraF_ck* causes the graphics of the given game to degenerate over time, exposing the text of the code as a visual element. The end result appears as a corruption of the game surface. This visual disturbance does not simply swap graphics, but which responds to the interaction of the user.

Console Based Subversions

Artwork which makes use of video game console systems in ways which are unintended by the manufacturers of those consoles fall into the broad category of work which I define as console based subversions. This emerging form requires a variety technical skills ranging from programming to electronics design. There are resources made available via home-brew game developers and the game piracy community which can be used by artists who want to develop projects which utilize, incorporate or subvert game consoles.

The first piece that I would like to mention is entitled *Atari-Noise* by Arcangel Constantini. This 1999 piece consists of a modified Atari 2600 which serves as a "noise pattern generator". The original Atari console is riddled with extra levers, buttons and dials that allow the user to tune *Atari-Noise*. The console utilizes graphics, colors and bits of sounds from game cartridges in the machine. In this way, the *Atari-Noise* device is capable of a seemingly infinite variety of audio-visual patterns completely controllable via the user. The game cartridge chosen serves as providing the palette for the audio-visual surfaces which the device generates.

In a similar vein, Tim Drage offers the *NesBender*, a device created by hacking the electronics of a Nintendo Entertainment System. The system was used as a generator for visual corruptions of games.

Unfortunately, the system died after repeated electronic hacks were made of it. In many ways, *NesBender* is a performative, ephemeral work in which the viewers are simply left with the documentation of the process. Another similar device is the *Nestune,* by Ilett, which allows the artist to create noisy corruptions of video game assets.

These three projects are performance objects, existing as quasi musical instruments although the output achieved is a general audio-visual noise colored by the games chosen to be corrupted. The devices are not as important as the work that they create and in two of the cases, the device was never intended for use directly by the viewer. These devices are conceptually related to the *gameboy ultraF_ck* custom emulator described earlier although *Atari-Noise* predates its virtual cousin by two years.

In many cases, these works are not simply the product of one individual, but rather, collectives of like-minded artists. For example, the Carbon Defense League created a game for Nintendo Gameboy entitled *Super Kid Fighter*. The storyline is inspired by the writings of Wilhelm Reich and his views on the sexual rights of children. The final form of this piece is a custom video game which can be distributed via Gameboy cartridges. The game will play in any Nintendo gameboy without modification. This fact is what differentiates this piece from a custom art game. Because this work runs on Nintendo Gameboy hardware, it subverts the legal and technical obstacles placed in the way of artists who want their ideas to "run" on original hardware. This key difference lends the game a sense of authority and finality.

One of the most visible artists working with custom cartridges is Cory Arcangel. A founding member of *Beige*, this group is gaining wide attention for several strong pieces. One of their well-known works

entitled *I Shot Andy Warhol* consists of a hacked version of an early Nintendo light-gun game, *Hogan's Alley*. In this piece, Arcangel has replaced the characters of the game (which used to be criminals, innocents and police officers) with Andy Warhol and other pop/celebrity figures such as the Pope and Colonel Sanders. Players use a light-gun interface device to shoot at the characters on screen, gaining points for hitting Warhol and losing points for hitting the others. While the piece is offered as an installation, the cartridge will run on any NES.

Another Arcangel project, *Super Mario Clouds,* is not a game at all. Intended to run on the NES, *Super Mario Clouds* is a hacked version of the once popular *Super Mario Brothers* game. This piece reduces the game to the clouds in the sky of the game world rolling by. There are no characters, there is no landscape. By removing all traces of game play or interactivity, the work makes an important conceptual leap: the devices created for making games can be used to create work that has nothing to do with playing a game. This important piece marks a move toward the treatment of game consoles as systems for artwork rather than simply systems for games.

Similarly, the 2003 *Super Ichthyologist Advance* installation by artist Paul Catanese was not created as a game, but as a repository for show-quality Koi. In this piece, the Koi appear to be trapped within the Gameboy which functions as a virtual tank. Each Koi has its own cartridge, so that viewers can collect them all. The inspiration for trapping the Koi in this way comes from the fanatic "gotta catch them all!" mantra which fuels the collection of *Pokemon*. This work uses the cartridge as a multiple, addressing the Gameboy as a surrogate container for electronic books. This piece forms conceptual links not only to gaming but also to multiples, book arts and intermedia.

WHERE ARE THEY?

I am convinced that there are many more artists creating or who have created work that qualifies as console based subversion, but they are currently harder to find than they should be. In the past few years there have been several exhibitions dealing with art that subverts the aesthetics or technology of games. In particular, *Trigger Game Art* in Melbourne, ‹*ALT*› *Digitalmedia* at the American Museum of Moving Image and *Loading* at La Gallerie Civica di Siracusa have all contributed to raising a general awareness of this type of work. Alexander R. Galloway's *RSG-SMB-TAB*, described earlier in this paper was commissioned for the Whitney Museum of American Art – so, it is not to say that these forms are not becoming recognized. But these forms *are* young, which is a very good thing to be for an artform. The parameters which define these forms remain mutable to the artists creating this work. Overall, the processes and rules which define these forms are not set, so it remains an exciting time to explore these ideas since there are no specified boundaries.

Console based subversion is interesting because it directly uses the hardware of the video game industry to create work. The console and the game cartridges are fetishized objects within game culture. The software is intangible, the images and sounds referential – but the objects *are holy*. To subvert them for uses other than the preordained is to question the very foundations on which video game culture is built.

I believe that it does occur to artists to subvert the hardware but there are factors which limit them from doing so. The two main reasons are technical and legal difficulties. Overcoming technical difficulties is a matter of research, experimentation and discovery. Legal issues are not as forgiving. In addition, the legal

issues of subverting consoles make it difficult to even find some of the necessary technical information from time to time and the overall journey toward a finished piece is made that much more difficult.

Sampling, mods, machinima and the other forms described do not suffer from these problems. Or more specifically, they do not suffer from these problems intertwined. Certainly sampling has its host of legal issues, but technically the act of sampling is not difficult. Mods and machinima are technically difficult, but the legal problems do not exist because the tools are often provided by the game development companies themselves. Custom game art falls into a category of its own because it is often not about the subversion of hardware, but of aesthetics. Custom emulation does suffer from the difficulties of console based subversion, and in a way, it functions as a virtual counterpart to the physically based subversions. However, there have not been enough examples of this type of work to truly begin understanding it as a form. Console based subversion takes on an entirely different character than the other types that I have described. The work is inherently physical; it generally requires the presence of the viewer. It lends itself to performance, installation and multiples. Of all the forms described, it needs the least amount of alteration for collection and display because the work can be understood in terms of objects which house the intangible.

During a workshop session at the Museum of Contemporary Art in Chicago, Cory Arcangel of Beige Records said "We started doing [console subversion] a few years ago... when we did, we wondered why there aren't more people doing it too." It is the same question that has been on my mind for quite some time. I would like to continue by offering some suggestions for why this is the case and why I believe that this will change.

Technical difficulties

The chief technical difficulty which faces the artist who wants to subvert consoles is the fact that game console companies do not regularly publish information regarding their consoles for everyday use. One facet of the business model of a game console company is in licensing and selling rather expensive, proprietary development kits to third party game developers. These kits are comprised of both hardware and software solutions and can only be purchased after a licensing agreement has been signed. In addition to the kits, there are support systems in place for publishing, replication and distribution of games; not to mention access to the technical specifications for the hardware of consoles themselves.

In spite of these difficulties, there are resources for the artist interested in working with consoles systems. In particular, there is an underground home-brew game development movement as well as a thriving game piracy industry. These two groups have handled the difficult task of reverse engineering the console hardware for nearly any system imaginable. In terms of console subversion, this is the worst task of all. To have this problem already solved, the job of subverting the console hardware is made exponentially easier to those with basic programming and electronics knowledge. In addition, the home-brew development community is quite open to sharing and collaborating with artists in order to help realize ideas. The game piracy industry also makes hardware available for tinkering with game cartridges and customizing consoles.

Home-brew developers have created methods for installing the Linux operating system on a variety of newer consoles such as Microsoft's Xbox, Sony Playstation, the GP32 handheld system and the defunct Sega Dreamcast. Because these systems can run Linux, artists can develop projects to run on

Linux which can then be run on consoles themselves. Because the Xbox and Playstation can play back DVD quality video, are network capable and output NTSC, PAL or SECAM video signal in formats up to component video, this technique of installing Linux on the systems is often used by audiovisual engineers for distributing the playback of video loops throughout dance clubs and bars. The current generation of consoles are powerful as compared to their predecessors not to mention most home computers. Yet consoles are often more affordable than the average home computer. For this reason, the drive to use these devices in subversive ways will only increase with time. This will further force console manufacturers to implement more difficult security routines. Luckily, this sort of challenge is exactly what drives some hackers to do the hard work of reverse engineering consoles which artists can then take advantage of.

Legal difficulties

Artwork which involves console based subversion exists in a legal grey area. When dealing with the re-contextualization of electronic devices, the specter of the Digital Millennium Copyright Act (DMCA) looms ever present. The DMCA is a federal law in the United States which allows corporations to sue individuals and other corporations for a variety of reasons. In particular, the law is designed to keep up with the needs of copyright protection and intellectual property rights in our technology infused culture. The law also has stipulations which make it illegal to reverse engineer digital technologies intended to copyright material or to create devices that circumvent copyright protections embedded within hardware or software. This stipulation is what causes trouble for artists. Not because of a direct infringement of the DCMA, but rather how this law impacts the game piracy community.

Since much of the technical support and hardware for reverse-engineering and tinkering with consoles is supplied for the purpose of game piracy, companies which sell these materials are often sued and shut-down. Of course, these materials *are* primarily used to pirate games. In particular, since game companies are concerned with preventing piracy, forcing those companies which aid game piracy tends to be rather high on the list of things to do for their lawyers. Artists should certainly consult with their own lawyers, but if ones work can be construed as game piracy or copyright infringement, that artist could be in for serious trouble. In addition to piracy as a chief legal concern for game companies, they also have a direct interest in controlling the games that have been created to run on their hardware. It is important to their business models that they know who is creating work for their systems so that they can receive a percentage of the sales and protect the image of their device. Subverting a console for the purpose of creating original artwork is no different than subverting a blender for artwork. Again, this is not legal advice, tread carefully and subvert at your own peril.

CONCLUSIONS

Unlike other emerging forms which draw from the aesthetics and technology of gaming, console based subversions require more resources to create. There are legal obstacles that make duplication and distribution of work difficult. However, the difficulties in creating console based subversions can be overcome. There are resources and support systems available to artists in the form of the game piracy and home brew game development communities. I believe that the reason why we have not yet seen more console based subversions is simply a matter of timing. Many of the artists working in the other forms mentioned are capable of subverting consoles. It is only a matter of time before they begin exploiting these devices in force. As consoles become more powerful but less expensive, the push to use them for non-gaming purposes will become a question of economy, let alone subversion.
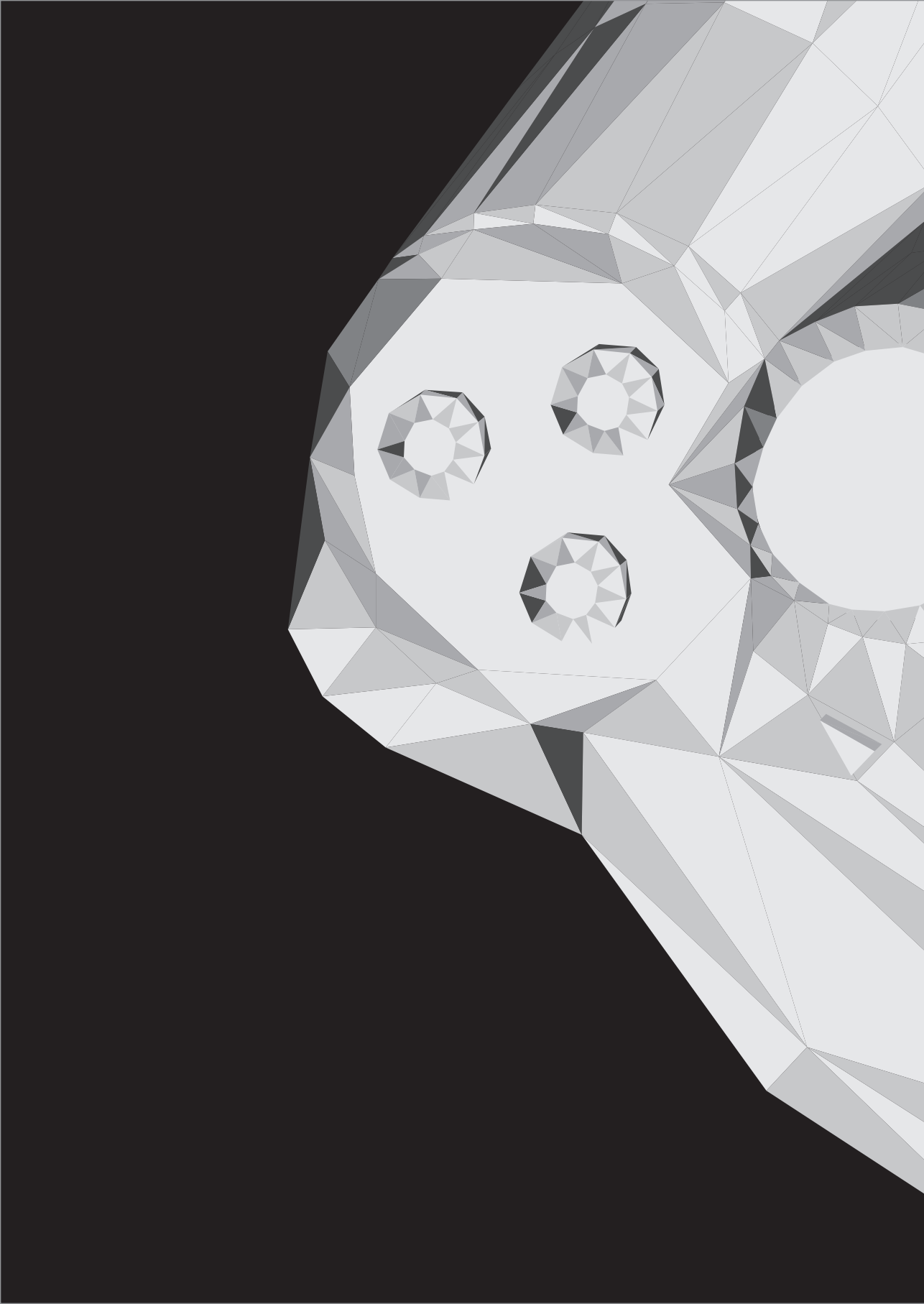
Research methods

VI

ON AN ROLL:
A JOINT STUDY OF SUPER MONKEY BALL

Simon Egenfeldt-Nielsen
Troels Degn Johansson
Lisbeth Klastrup
Susana Tosca

The four following papers each address the game *Super Monkey Ball* from different perspectives. The papers are written by researchers at the Center for Computer Games Research at the IT University of Copenhagen. They present the outcome of an explorative study which had as its primary goal to study a single game from a variety of perspectives and through this practice to cover as many aspects of the game experience as possible while exploring the reasons behind the spectacular success of a game which the researchers themselves have all enjoyed playing. Secondly, the researchers wanted to explore the potentials in approaching one game as a group over a period of time and to learn from this process. Thus, part of the research presented here refers to a number of small pilot studies of players playing *Super Monkey Ball*, conducted in unison by two or more researchers in the group.

Super Monkey Ball (SMB) was developed by Sega for the Nintendo Gamecube and was launched in late 2001. So far, it is estimated that almost 1 million copies of the game have been purchased worldwide. SMB is primarily a single player game, but comes with a number of "party games" for up to four players that have proven more popular than the main game itself. SMB tends to be placed in the classical platform genre, but contains elements of action & skill and race games as well. Each player of the game controls a little monkey in a ball, up and down narrow tracks which can move, be full of holes or bumps. The party games allow for competition between the players by making their monkeys race, box, or play golf among other games.

Following the success of the first game, *Super Monkey Ball* 2 was released in august 2002, now with a storyline included. However, the papers here primarily deal with the first SMB game which is more easy to learn and to play, especially for inexperienced players, who were part of the target group in our user tests.

29.KEEP THE MONKEY ROLLING:
EYE-HAND COORDINATION IN SUPER MONKEY BALL

Simon Egenfeldt-Nielsen

ABSTRACT

This paper examines the relation between eye-hand coordination and computer games, specifically Super Monkey Ball. The study is exploratory and focuses on theoretical background and method problems. At the end of the paper the results from the pilot study is briefly presented. The results from the study are inconclusive in regard to the two main questions: Is there a connection between good skills in playing computer games and eye-hand coordination? Do avid computer game players have better eye-hand coordination than others?

KEYWORDS

Super Monkey Ball, games, study, learning, educational, eye-hand coordination, visual, motor, skills, children

INTRODUCTION

In the public debate eye-hand coordination is often cited as the most important skill for playing action games and becomes the first line of defence for the position that you can learn from games [4][12][19].

The question of whether computer games can enhance eye-hand coordination is not new in the public debate nor in game research but dates back to early games like Flight Simulator, Battlezone, and Marble Madness [22][26]. Ronald Reagan is often cited for commenting on the popular flight simulator games saying: "I recently learned something quite interesting about video games. Many young people have developed incredible hand, eye and brain coordination in playing these games. The air force believes these kids will be our outstanding pilots should they fly our jets." This quotation has over the years been supported by regular stories on the military using games for teaching specific skills.

Despite early research interest in eye-hand coordination and a clear public interest in a potentially positive effect of computer games, actual research progress remains limited. The reasons for the lack of substantial studies are probably a combination of different factors. First of all, the development of game research in the direction of the humanities has not favoured studies of computer games and cognitive skills including eye-hand coordination. Instead the focus has been on games from a literature and film perspective. Secondly, the mix of game genres and grow in the technological complexity of games has made it hard for researchers to identify appropriate titles for studies

which do not introduce other confounding variables and are customisable. For example, it was quite easy for Thomas Malone in the early 1980s to alter a simple Dart game to fit his needs to examine the importance of different variables in games for player's motivation [16]. Thirdly, the general focus in learning theory has moved away from a cognitive perspective and towards a broader approach encompassing socio-cultural factors [8].

This paper takes an explanatory approach to the question of eye-hand coordination by observing a group of children aged 10-13 years play Super Monkey Ball. This paper will focus on the methodological problems that became apparent in this pilot study due to the nature of computer game playing and the wish to perform the study in the children's natural environment. The results will be mentioned briefly only, as they are flawed by methodological problems, and these should be taken into consideration when reading the results. However, the questions that were examined, and which will hopefully in a later study be answered were: Is skill level in Super Monkey Ball related to eye-hand coordination, and do avid computer game players have better eye-hand coordination?

THE SUPER MONKEY BALL GAME
Super Monkey Ball on the GameCube platform is about controlling a ball with a monkey running inside it. The handling and steering of this ball builds on a constant flow, adjustment, and interaction between what you

see on the screen and what you do with the controller. It is this control that is the premise for initially exploring eye-hand coordination in Super Monkey Ball.

In the main game you advance through different levels of varying difficulty, where you must pick up bananas, avoid falling and complete the level within a certain time limit. Besides the main game there is party games and mini games which are highly popular – often they are preferred to the main game[1]. The party games and mini games are usually built on a classic game concept like in Monkey Race, where it is a classic racing game. The party games and mini games still retain the same settings and controls.
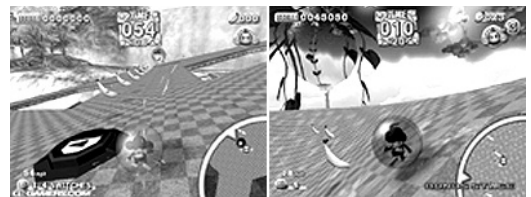
Images 1 & 2: Two different levels from Super Monkey Ball main game.

THEORETICAL BACKGROUND
In game research, the knowledge of earlier research is often limited due to structural problems. In the latest study of visual skills [9] and video games, no prior research of visual ability, spatial skills, and computer games is cited. However, this is hardly an accurate picture of the situation. It is true that research into the domain of spatial and visual ability has been

[1] This was apparent from the empirical data in this study and supported by the two other play sessions held by Lisbeth Klastrup, Susana Tosca and Simon Egenfeldt-Nielsen.

limited since the productive years in the mid-1980s and the mid-1990s, but important studies were conducted in those years, and should not be forgotten.

Earlier studies of cognitive skills have dealt with a wide variety of skills. However, eye-hand coordination in one form or the other has from the start been one of the most interesting studies owing to the public common-sense approach to the effect that computer games involve heavy use of this skill. The question has been heavily debated although gamers are apparently approaching the debate with some scepticism and an ironic distance. Apparently a lot of gamers are not convinced that game skills can be transferred to other areas of life [1][5].

The definition of eye-hand coordination differs between people, gamers and researchers. The question of eye-hand coordination comes within the broader definition of cognitive skills in relation to video games (but also encompass motor skills), which covers spatial ability, visualization, thinking, reasoning etc. There are several definitions of eye-hand coordination. Laypersons often refer to eye-hand coordination as the application of vision to control and guide arm movements. A more accurate definition is "the process of coordinating movements of the eyes and hand/arm system so that they both move toward the same target"[2: p.1]. It is the latter definition that is used in studies of computer games and eye-hand coordination, where interaction and feedback mechanism between eye and hand is the focus.

Some studies have been conducted of eye-hand coordination in computer games although the number is small and often the studies involved a limited number of participants. I will focus on the studies of spatial, perceptual, and eye-hand coordination, as they are to

some degree inter-connected. The area of spatial ability is better researched than the question of eye-hand coordination. From the start, studies of eye-hand coordination in video games yielded negative results in the sense that video games did not seem to improve eye-hand coordination. On the other hand, spatial skills have been found to be affected by video games on a long-term basis [7][9][10][14] and can be improved through video games [3][7][9][14][20][26]. There are some contradictory results [20][23], which could be attributed to the measurement of different areas of spatial skills. One of the major controversies is the issue whether you can transfer skills learned in video games to areas outside video games, and this discussion is echoed within the research of spatial skills. Still, a frequent source of error in these studies remains: The test of spatial skills is conducted on a computer screen, which is the same platform as video games. Hence, the test is administered in an environment favoured by the game players and the results could also be a consequence of familiarity with the test platform instead of the issue of eye-hand coordination.

The studies of eye-hand coordination are very limited but add up to the following conclusion: There does not seem to be any differences between non-players and players in respect to eye-hand coordination [6][7][11], and therefore it has not seemed relevant to study whether video games may potentially improve eye-hand coordination. One study with a limited number of participants did find a relation between eye-hand coordination and computer games but it has not had a great impact on the research community [17]. The study examined a group of 7-8 years-old children, who - according to the article - are in an important eye-hand coordination developmental phase. Overall, the number of studies are quite limited and dated

Table 1: An overview of previous research into eye-hand coordination (N = number of participants in the study).

Author(s)	Year	N	Skills	Results
Lowery & Knirk	1982	-	Spatial visualisation	The researchers conclude that there is indeed "strong circum-stantial evidence" that video games support spatial skills.
Griffith et.al.	983	62	Eye-hand coordination	No found relation between how much you played computer games and your eye-hand coordination.
Gagnon	1985	58	Spatial visualisation	Eye-hand coordination The female participants improved on spatial visualisation probably as a conse-quence of less skill initially. No change in eye-hand coordination.
Dorval & Pepin	1986	70	Spatial visualisation	Spatial visualisation can accord-ing to this study be improved by playing video games.
McSwegin et. al	1988	30	Eye-hand coordination	Video games can improve eye-hand coordination and reaction time over a period of time.
Keller	1992	127	Eye-hand coordination	The study did not find a relation between eye-hand coordination and video game playing.
Funk & Buchman	1995	-	Eye-hand coordination	The meta-study found research to be "surprisingly inconclusive". The connection is weak between games and eye-hand coor-dination Subrahmanyam & Greenfield
1996	61		Spatial ability	Found that playing a video game improves spatial ability especially subjects with initial low spatial ability
Okagaki & French	1996	57	Spatial ability	Spatial ability improved but only for male subjects and only to close-ly related spatial ability tasks.
Greenfield, Brannon & Lohr	1996	24	Spatial ability	Found a relation between good video game player and high scores on spatial ability. A long-term rela-tion but no short-term.
Scott	1999	21	Spatial ability	The study did not find that video games improved spatial ability in the short term.
Green & Bavelier -	2003	8-10	Perceptual and motor skills	Found that video games have bet ter skills, and it is possible to train these skills through video games in a way so the transfer to other tasks.

(the last experimental study dates back to 1992 and the last meta-study is from 1995). It would therefore seem appropriate to approach the area once more, researching it more thoroughly, especially given the continuing uncertainty in the public eye in relation to the beneficial and problematic consequences of computer games.

METHOD

The procedure was quite informal, observation, test and interviews running over approximately 3 hours. The session took place in a natural environment for the children to gain as valid data as possible [24]. The setting was an After School centre, where the participants normally have access to a PC room and a Playstation 2 room. The free environment meant that the participants were not confined to the game room for a specific period of time or had to complete specific tasks. This also meant that I only obtained the required data for less than 20% of the children that were at some time involved in the game session. In practice it turned out to be hard to keep the same participants playing for more than 15-20 minutes. After this period new players took over the controllers or other activities took their attention. This made it quite hard to measure game skills, and likewise obtain other data. Therefore, the data on game skills were obtained in a variety of ways: observation based on winnings in games, observed mastery of game, learning curve, and comments from other players, both during and after the game.

The test and interviews were conducted in a room separate from the game room, which was an absolute necessity to keep the children concentrated on the test and interview. It was first attempted to perform the test and interview in the game room but with very poor results. The final set-up was for one group to receive the test before playing and one after playing, both in a separate room. This was done

out of practicality, to keep the children concentrated, and to see if the test results of the before- and after-playing groups would differ.

The test used was Test of Visual Motor Skills where you draw a number of figures as accurate as possible. The results are interpreted and the score is adjusted in accordance with age and norms. The test is able to measure your level of eye-hand coordination, and has been developed over several years [18].

Participants

The sample consisted of 7 boys aged 10 to 13 from a low-class/middle-class urban area in Copenhagen, Denmark. The sample was selected so the participants knew computer games, could be measured by test (between 2-13 years), and to avoid gender. The children all had prior game-playing experience with a game console and were avid computer game players. They did not play one specific genre although action was the preferred genre. The most popular playing platforms were PC and Playstation 2.

Methodological problems

As already mentioned, the set-up gave rise to several problems. One problem was the sampling of the participants which was contaminated by self-selection. This meant that the participants were all computer games players, interested in the game initially and highly motivated. It also meant that the participants measured didn't know the game beforehand.

The participants who knew the game were not as inclined to play the game. They did hang around the room but usually did not engage in the game, being thus not included in the sample. It was obvious that the children who knew the game hanged around acting as an active audience. They wanted to show their knowledge by referring to other levels in the game, and by giving small game related comments.

The children that were playing, and didn't know the game used this knowledge as an excused to keep them out of the game – stating that the children that had already played the game could not expect to play it on this occasion. One should be aware of such group dynamics when operating in a natural environment, where self-selection is a given condition. Potentially there could be other factors that might contaminate the results as a consequence of unknown factors underlying the self-selection. For instance, parallel with the game session there was a baking activity and role-playing activity. The participants might be the ones that didn't want to bake or role-play and they might deviate in some way from a normal group.

Initially the set-up was selected to ensure a genuine and realistic game environment, where the participants felt comfortable. As mentioned above, this resulted in problems of keeping the experimental room controllable and manageable. Still, the criterion for realism and authenticity was met which was considered important. In the specific interviewing, another problem arose. It seemed like some of the participants in the interviews were a little too eager to talk about addiction and health hazards in an adult discourse. These subjects were brought up spontaneously by the participants, and the statements were often followed by a close examination of the interviewer – was that what he really wanted? Earlier studies have confirmed this problem as a real threat to studying media habits [25]. In another Danish study the participants all seem to think they played less that there peers, and this was especially so for girls. This could indicate that the adult discourse was also at work here [4][28]. The influence of a grown-up discourse could very well influence the reporting of game usage, thus making the connection between game usage and eye-hand coordination impossible to test without observation in the home or at least some other validation of children's self-reporting.

The environment also proved to be quite hectic and noisy, which was especially a problem in respect of interviewing and testing. The participants were interrupted and sidetracked. Furthermore, the noise and hectic activity impeded the observation of the children and obtaining the necessary data. One distinct influencing factor was some of the girls' comments.[2] These statements were often delivered in passing but clearly had an effect on the male participants. In the game room, the girl shouting resulted in a marked decline of intensity, communication, and cheerfulness. In the test room the impact was harder to assess, but the test manual [18:p. 22-23] would definitely consider it problematic. The conflicts mentioned are related to the clash between girls and boys and is clear from that fact that at no point did boys and girls engage in game activities together. The girls did at no point approach the game. The gender dynamics should also be taken into consideration when conducting studies in computer game setting, as it is still present, despite attempts to close the gender gap in computer use.

[2] One dominating girl shouted, "Don't you have a life?" into the game room and in another case two girls invaded the test/interview room with a comment like "Do you give them the test to see if their brains have been damaged after playing".

The stressfulness of the environment was apparently more than averagely intense, according to the recreation centre teacher at the place. From one perspective it could be said that these noise and stress levels are a natural part of an After school and should not be eliminated. On the other hand, they seriously undermine the validity of the data acquired. The problem is not really a solvable one, but certainly one you should keep in mind when setting up a study. The problem is not unique to games but is a general predicament in studying children's cultural behaviour.

RESULTS

The game was well received by all participants and was played with great enthusiasm, especially the party games called *Monkey Race* and *Monkey Fight*. The results are summarised below. Overall, they are not strong enough to support the public beliefs regarding computer games and eye-hand coordination mentioned in the introduction. However, below I shall discuss the results more closely. The table is divided into two groups in accordance with the time of testing: A group (1-3) where the test was administered after the game session, and a group (4-7) where the test was administered after the game session. Game usage was first measured in hours but then converted to high as all players reported playing above 2 hours each day. The raw test score is the test result before it is adjusted for age, and the scaled test score is the score after age is applied. The last column indicates what percentile the player is in for his age group. For example player 1 ranks among the 45% worse players whereas player 4 is in the top 18%.

In the group of participants where the test was administered before the game session, the good player scored lower than both the average player and the poor player. The pattern is a little different for the group where the test was administered after the game session. Here, the good player is in the best group but he is not better than the other players. Furthermore, one of the players who played Super Monkey Ball is in the 32nd percentile, the lowest of the sample. If there were a relation between playing and eye-hand coordination we would not have expected to find the lowest score in the after playgroup.

The other question in this pilot study is whether game usage in general is related to eye-hand coordination. The test could lend some support to this claim as the two groups in average rank in the 57th percentile, which is a little above expectations. We would have expected a percentile mean of 50. However, the number of participants is too small to constitute any solid evidence.

If we look at the difference between the test results of the before and after group there is some indication that you may actually improve from playing the game as the test score mean is higher for the after game session group. Furthermore, one of the players in the after game group ranks very low which could indicate more fundamental problems with eye-hand coordination, which could not be improved through the game. However, such a finding would need a real experimental set-up with a control group, pre- and post-test to be studied appropriately.

	Test time	Age	Game Usage	Game Skills	Test-score: Raw	Test-score: Scaled	Perc.
1	Before	10	High	Bad	35	10	45th
2	game	13	High	Good	40	9	39th
3	session	10	High	Average	36	10	47th
4	After	11	High	Average	50	13	82nd
5	game	13	High	Good	52	12	75th
6	session	11	High	Average	33	9	32nd
7		12	High	Average	51	12	79th

Table 2: The Results of the Current Study of Eye-hand Coordination.

The results support earlier studies of eye-hand coordination where no clear connection between good computer games skills and good eye-hand coordination skills was ascertained.

CONCLUSION

The study uncovered a lot of methodological problems concerning the conduct of an eye-hand coordination test in a natural environment: Among these a potential problem with the validity of self-reporting, the impact of a stressful environment, and the importance of group dynamics. These problems should be taken into consideration when designing a more comprehensive study. The results do not support any connection between eye-hand coordination skills and computer games but the general claim for a connection between eye-hand coordination and games cannot be rejected altogether either. However, with the present study and earlier studies in mind it seems premature to argue for the existence of a connection between eye-hand coordination skills and computer games.

One might ask why eye-hand coordination remains a popular skill to associate with computer games. One reason is probably that the idea is deeply entrenched in the public sphere by early anecdotes of military simulators that train eye-hand coordination. Despite the fact that the military's first attempts at using games for eye-hand coordination improvement with Battlezone failed [15], the continuing use of computer games for other purposes was interpreted as the training of eye-hand coordination. Apparently, it is easier for a lay person to conceive of eye-hand coordination in relation to military simulation-training than to team tactics, conflict resolution or strategy, which is the real rationale for using Doom, Delta Force 2, Sense and TopScene in the military [21][15].

However more important than the military anecdotes is the general wish to rationalize over the usage of computer games, and to identify educational potential of new media. There seem to be a desire for not just engaging in leisure activity but too make it meaningful at a higher level – it is not enough to have fun. A rhetoric that is well known from play theory [27], and is certainly also clear in the edutainment wave. We will need more than a few studies and anecdotes to establish whether computer games can support eye-hand coordination, and even more to alter public opinion in this area.

ACKNOWLEDGMENTS

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30.VERTIGO AND VERTICALITY IN SUPER MONKEY BALL

Troels Degn Johansson

ABSTRACT

The vertical dimension is crucial to Super Monkey Ball on all levels[1], and invites us to meditate on vertigo and verticality, falling and failing in the construction of space and game-play in this game and in computer-games as such. In Super Monkey Ball, the vertical dimension should be mastered (landing on tiny islands with the ball glider), avoided (off golf courses, off race tracks, or off fight arenas elevated almost astronomically above the ground), although it may also invite to dangerous downslide acceleration or short-cuts that will give your baby monkey ball a lead in the race (descending tilting planes, falling from one level to another while staying on the course). But most notably, verticality is emphasized by falling and failing. Slipping off the race-track or shooting oneself off the golf course by mistake always means dropping into a spectacular free fall; losing the poor baby monkey in dark swamps, sparkling oceans, or void, endless desert-like spaces. Meditating on this aesthetization of falling and failing in Super Monkey Ball, this brief study outlines the peculiar allegorical, albeit funny and social character of this game, which seems just as important as the playing of the game as such.

KEYWORDS

Aesthetics of computer games, fun, console gaming, rhetoric, allegory, Super Monkey Ball

INTRODUCTION

As a computer game, Super Monkey Ball (SMB) is a bagatelle. If we are to believe Klastrup's informal observation elsewhere in this collective presentation, players of SMB enjoy playing this game although they do not normally play computer games. SMB's appeal to otherwise non-gamers (as well as gamers) seems to be based on the fact that this game is not to be taken seriously in the same way that computer games usually are since its social aspect is just as important as—and in a certain sense dominates—the playing of the game itself. Although SMB does function well as a game and probably could be taken very seriously, the console setting, its cute monkey imagery, caricatures of infantile egos and ego-centric player behavior, and the thematization of motor insufficiency and perceptual disorder invite to a lighter way of

[1] That is in all "games", as the Nintendo GameCube terminology has it.

playing that seems particularly appealing to those who find hard-core gaming "uncivilized" (and probably also to those who could indeed take the game seriously but wish to demonstrate that they, too, can take in the charm of baby monkeys and less aggressive, less goal oriented player behavior).

This short paper argues that SMB–because of its lightness and caricature-based suspension of the hard-core game player approach–lends itself more easily to a rhetorical reading; a reading that foregrounds the distinct vertical theme of the game in order to "monkey" the player him/herself, that is the ego and its "erroneous self-sufficiency." As Nintendo has it on their SMB web-pages: "Go ahead, make a monkey of yourself"[2] Following this we finally compare SMB with some of the rhetorical strategies that we have also seen employed in short computer games for the World Wide Web; strategies which we elsewhere, in semiotic terms, have laid out as being either satirical or allegorical. [1]

MONKEY PLAY: MULTI-PLAY IN THE CONSOLE SETTING

According to the recent computer-games criticism, multi-play in networked environments has brought back to computer-games the truly social element of which games supposedly originate. However, the multi-play facilitated by the common console setting is obviously a much more clear-cut case of this, since the players here share not only the same virtual environment of a game world but indeed the same physical environment of a living room or wherever one chooses to play such games. The console setting brings players together in a casual atmosphere, typically in one (or more) of the players' home in which two to four players share the limited space given by the length of the chords from the four game controls to the console and the kaleidoscopic spectacle of a split television screen, which does not allow the players much distance to each other if those are to follow the action. Console settings are relatively stationary since the console kit is linked up with a television set. The console setting typically bases itself on a social network that has been established independently of the game; couples or groups that just turn on the console in order to have fun and to be entertained.

This social, domestic setting forms out a context that the game will have to relate to in order to be a good game. Most importantly, console games develop the domestic television setting into a situation where each of the players can see his or her own position and relative success in the game in relation to the other players and how they are doing. All facts about the game action are thus simultaneously shared with all players, which make it possible for all players to observe and comment on everything that is going on. This is so since all action takes place on the common television screen and in relatively small gameworld in which it is easy to identity the other players' virtual location in relation to one's own; that may be in turn-based full-screen game action as well as in split-screen synchronous games.

[2] Observed on http://www.nintendo.com at August 25th 2003.

SMB is thus clearly designed in such a way that it is easy to follow the action and fate of other players' playing so that one may comment on it while playing the game oneself. The initial choice of a baby monkey avatar is not the free construction of a complex virtual identity for a long "life" of action and character development (like in MMORPGs) but a figure from a fixed group of four baby monkeys for instant action and fun; a group that is thus a constant of the game, each of them having a fixed name and a fixed character. The monkeys are encapsulated in balls of simple bright colors (red, green, blue, yellow) and have individual bodily features that make them relatively easy to separate from each other. This allows players to brag off, tease, gloat over and *monkey* other players while striving for the best performance. Yet, what is fun in SMB is not only winning but also, and perhaps more importantly, watching other player monkeys fail; watch them celebrate a victory, be angry or cry because of a defeat. Trying to develop player competence and master the situation in order to win the game is important–this is a game! –But this is obviously not the only, or most important goal of this game.

As a social game or "party game", the player gathers with other in order to have fun together; not simply of finding a winner but more importantly of amusing oneself with fellow players; trying to win but also of preventing others from winning, e.g. by pushing opponents of the arena (Monkey Fight) or trying to make them slip off the course by dropping a banana skin (*Monkey Race*). What is at play is a kind of collective game-play where the game-play value for the individual player is tied up with the other players performance and the comments and laughter that this comparison gives rise to. Such "monkeying" of others players is supported by the overtly infantile behavior of the monkeys, but obviously in a light, caricatured fashion which in a sense monkeys the "raw" competition of the common computer game and the natural ego-centrism it gives rise to. Klastrup's empirical study elsewhere in this presentation clearly supports this interpretation. The point is exactly that SMB makes it "socially safe" to verbalize and brag over your victory and gloat over the other players' defeat, but paradoxically this only distance the players from serious playing. Not unlike rhetorical games, SMB thus suspends the seriousness of playing while still maintaining the basic structure and goals of the ordinary computer game.

The choice of figures for this game; the cute, yet childishly self-indulgent baby monkeys encapsulated in small balls, forms out a kind of super-theme of the game that matches perfectly the special collective game-play and the typical situation of multi-play for co-present players. Tosca also develops this point. Being a baby once again, one is to develop basic motor competence in respect of moving, maneuvering, and especially of not falling down from something, that is, off the course that one is trying to master. However, the conditions of the console setting do not leave the players with the best possibilities of mastering the situation, and this obviously

emphasizes the theme. The split screen image is relatively small, and the extreme wide-angle image inhibits one's normal motor skills and makes mastering the movements rather difficult.[3] As a test player in our empirical study exclaimed, "This is like riding a bicycle when you're drunk!" Add to this the fact that your little monkey is trapped in a ball and left to move only by trying to make the ball roll. In the fixed third-person perspective of SMB, rolling one's monkey around in the world feels more like tilting the planes of a world that passes by the ball rather than actually navigating the ball through a world; an effect which is not unlike a particular kid's toy where you should get a steel ball through a wooden labyrinth filled with holes by tilting the labyrinth's plane on two separate axes with your right and left hand respectively (Fig. 1).[4]

Image 1: The Labyrint Original by Swedish toy manufacturer Brio.

[3] Not least that is, if you – like me – are used to keyboard controls

[4] The Swedish toy manufacturer BRIO produces such a piece of toy named Labyrint Original.

MISE EN ABYME

The resemblance with the tilting labyrinth is even stronger if one focuses on the distinct vertical theme in SMB. As mentioned, the games or levels of SMB usually takes place on courses or tracks that are elevated astronomically from a distant ground, and when playing SMB, one is constantly at risk of falling into an abyss with one's baby monkey. This vertical dimension is emphasized by the use of dramatically descending planes in certain games and by giant lianas, rock pillars, and spiral castle-like constructions that disappears far below and far above. And when one falls of the track with one's monkey ball, the ball disappears into an abysmal environment of clouds, darkness, or nothingness; as if one is virtually falling many kilometers without ever hitting the ground before re-spawning at the track on the location where one fell of.

The elevation is a re-occurring theme throughout the games. In the main game with tilting planes, temporarily disconnected tracks, and other kinds of spatial problem solving, the monkeys are taken from one plane in the sky to another further above after having completed the first. By identifying the spatial form of the course as it appears through the clouds, one gets an idea of the problem that one is to solve next. In *Monkey Bowling*, like in ordinary bowling, the bowling alley has a ditch on each side that will catch the ball if one cannot through it directly towards the poles; except that in Monkey Bowling, the ditch is not a ditch but an urban abyss, so if you cannot control the direction, the poor monkey ball will disappear somewhere

far below in a nocturnal cityscape. In Monkey Target one is to hit small islands in the ocean with a kind of ball para-glider without colliding with bombs in the air and without missing the targets and drowning in the sea. And in *Monkey Fight*, like in sumo wrestling, one has to punch other monkey players off the arena and avoid being punched off oneself. If you don't, your monkey is not just off the combat field, but also lost in kilometers of free fall before re-spawning in a weaker version. In *Monkey Golf*, one's monkey ball is a mini-golf ball that is to find its hole without dropping off the course—which does not mean ending up in the bunker or in a lake but losing one's monkey in yet other kilometers of free fall.

The extreme elevation of SMB's courses, arenas, combat zones, etc., reminds us of the grand roller coasters of the amusement parks (or of a caricature of a roller coaster); a setting which of course is also about having fun by subjecting yourself—and watching your friends—subject themselves to extreme movements, perceptual distortion, and hence the suspension of your common physical capabilities. Yet, this monkey world is just much, much wilder. The vertical imagery of SMB is not unlike that of the visual identity of the Copenhagen Tivoli; the old amusement park, which in posters and other pictorial depictions often is attributed an imagined verticality—to be elevated from the ground to a degree which is supposed to resemble that of the roller coaster or Ferris wheel point-of-view but which in fact is much more extreme; an elevation that transcends not only the treetops of the park but also the cityscape below (Fig. 2). This imagined verticality contrasts the rather limited geographical extension of the Tivoli garden, its ordinary garden-like appearance, and the ordinary Copenhagen life, and opens up for a poetic dimension of romanticism and orientalism which is also characteristic of the garden's architecture. This conjunction of extreme verticality, romanticism, and orientalism is explored further in François Schuiten and Benoît Peeters' comics album *The Roade to Armilia* (La Route a l'Armilia, Casterman, 1988) from the comics series The Obscure Cities (Les Cités obscures).

Image 2-3: Comics illustration by François Schuiten and Benoît Peeters: The Road to Armilia; a vertically distorted depiction of the cityscape of Copenhagen with its old towers and the Odin Express roller coaster arond the fireworks of Tivoli.

The vertical theme of SMB is emphasized by the visual design, even when one is staying right on course as one is supposed to. In the *Monkey Race*, the monkey balls roll rapidly through ditch-like courses, and when the ball is rolling for real, the extreme wide-angle/fish eye perspective and the visual patters of the course makes the player feel like the ball is actually rolling downwards as if down a slope. In this perspective, the player's ability to estimate distances become distorted— it is as if the world just keeps coming toward you with a tremendous pace. This optical impression is emphasized further by the sparkles that radiates in all directions from a fixed center behind the ball when it rolls through a course; an expression that creates an almost abysmal perspective.

Image 4: Screen shot from the typical concave Monkey Race track with a visual pattern that emphasizes speed and with sparkles radiating from the center.

As a computer game, SMB is what scholars of literature would call a *mise en abyme*; the "staging of an abyss" (i.e. André Gide's pun on the French expressions *mise en scène*, staging; and the word *abyme*, abyss). According to comparative literature, the use of the literary trope of the *mise en abyme* has, in experimental fiction, tended towards the Symbolist tradition, where the limits of language are tested in an extreme self-reflexivity closed off from the reference function of language. In the study of narrative and visual representation in general, the concept has thus come to capture the instability or fragility of representation, for example by thematizing the perishable or transitory character of the material of expression (e.g. the paper of a book), an erratic structure of enunciation (e.g. an insane narrator), or that the epic depiction of a human being eventually turns out to be staged as if a game (e.g. Peter Weirs film "The Truman Show, USA, 1998).

Bearing in mind the fundamental ontological differences between games and the literary expression in literature, cinema, etc., addressed by Juul and others [2] I would still argue that the concept of *mise en abyme* is pertinent when we are to capture the themes of vertigo and verticality in SMB. This is so, not only because of the verticality thus depicted in the SMB games but also, and perhaps more importantly because of the paradoxical character of SMB

as a game: That we have to laugh and distance ourselves from the monkeys that take the game so deadly serious, although at the same time we get an excuse to simulate seriousness and brag off, tease, and gloat over fellow players in a more uncivilized, infantile fashion. In this sense, I would say that the paradoxical character of SMB "monkeys" the ordinary computer games that it almost perfectly resembles; a strategy that is similar to the *mise en abyme* in the literary expression although computer games are not capable of expressing anything in the same way as e.g. literature and cinema.

THE SPIRAL EAR
The abysmal character of SMB leads us to approach a second, even "deeper" paradox of the game; namely that despite its lightness, the charm of its cute little monkeys, and the suspension of "uncivilized hardcore gaming", this game is still able to—if not "express", then at least "point at"—a poetic dimension that is somewhat "darker" and subtly melancholic than the apparently superficial monkey imagery otherwise indicates. For whereas the friendly "monkeying" of one's (lack of) skills when facing the challenging courses and tracks of SMB is funny, it cannot help addressing the player ego's basic insufficiency; that "no matter how effective you may be as a player of this actually very difficult game you have been struggling with for such a long time, this is all in vain for real life is so different and much harder." Falling and failing—which is emphasized excessively in this game—thus points poetically at a kind of recognition of one's fundamental insufficiency; that "I am in fact just a little monkey lost somewhere between heaven and earth." I am touching here upon what we have previously referred to as a super-theme in computer games, namely the basic association between Game and Life. In a previous work, along with Madsen, I have demonstrated how rhetorical strategies in short computer games for the World Wide

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Web base themselves on a cognitive mapping similar to that of metaphors. Following Lakoff and Johnson, this association is based on a conceptual mapping of games (source domain) upon Life (target domain), [3] which again associates the urge for game mastery with the urge for eternal life.

SMB resembles the rhetorical strategies of short computer games for the World Wide Web. Exactly by exceeding or transgressing itself as a game, it becomes possible for SMB to express profound ideas about Game and Life—or rather, for the player to realize these ideas. Emphasizing vertigo and verticality, falling and failing, SMB twists poetically and playfully this monstrous association into a slightly melancholic pathos: Just as it is impossible to achieve eternal life, so is it impossible to win in SMB! In this way, the spiral ears of the cute yet infantile and self-indulgent little monkeys become emblematic for SMB and the playing of computer games as such.

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31. "YOU CAN'T HELP SHOUTING AND YELLING": FUN AND SOCIAL INTERACTION IN SUPER MONKEY BALL

Lisbeth Klastrup

ABSTRACT

This paper examines the relation between social inter-action and fun in multi-player console gaming contexts. It points to the fruitfullness of integrating game studies and game sociology with cultural studies of television and video use in order to explain both the framing and (social) use of console games and the fun of playing them. A prestudy of the relation between social interaction and fun in the playing of the game Super Monkey Ball reveals that there is a close rela-tion between gaming skills, the gaming situation as a pleasurable and relieving social activity and the expe-rience of fun.

KEYWORDS

Social interaction, fun, console gaming, Super Monkey Ball, social practice, contexts of consumption

INTRODUCTION

"Super Monkey Ball is just such a fun game to play", an otherwise non-gaming colleague once told me and his comment is what motivated the research described in this paper. It grew out of two informal observations: firstly, several people that I have met (colleagues and friends) enjoy playing *Super Monkey Ball* (SMB) though they do not normally play computer or videogames. This made me wonder, which features of this console game - or the console gaming situation - causes this unusual engagement in an activity they do not normally engage in? Secondly, being a SMB player myself which very much enjoys to play this game with other people, it appeared to me one day while playing that the cosy social intimacy of the console gaming situation in some respects resembles the expe-rience of the video or TV viewing context and particularly because of this "fea-ture" encourages other forms of social interaction than PC game playing.

The console game as living room activity

Watching TV or videos normally takes place in the living room or other social spaces; and likewise much console-playing differs significantly from the isolat-ed PC-playing experience, which normally takes place close to the screen and in a private space, such as ones room (or office).[1] Console playing normally takes place somewhat removed from the screen on which the game is played, and, if more than one player is involved, often physically close to others as to enable all players to watch the screen (in contrast, even in the case of multi-player PC games, each player is placed in front of their own screen and

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[1] An American survey from 2001 shows that 38% of the con-soles are placed in the living room and 21% of the consoles in the fam-ily room. In other numbers: 3 out of 5 consoles are placed in a space meant for socialising.
http://www.theesa. com/consumer-survey2001.html

at some physical distance from other players). Thus, at least the physical context of playing a console game like SMB, , logically resembles that of the video- or TV viewing as it involes the use of a TV in a domestic setting. Hence, we are looking at a popular activity where people often come together to socially engage in a leisure activity in a intimate setting. But exactly what kind of social interaction does console gaming involving several players encourage? And is the living room "intimacy" and social set-up of the console game experience part of what makes a console game like SMB attractive to the inexperienced games? Finally, when trying to answer these questions through empirical studies, can consulting some of the studies done on the TV- and video audiences help provide a methodological framework and research design for studying the social practice of playing console games?[2]

GAMES, FUN AND SOCIAL INTERACTION

As Fine has pointed out [4],[5], multi-player gaming is one amongst a number of *voluntary* social activities, a"focused sociability" [5, p.8], which provisions its participants with certain resources (mainly equipment, space, and companionship). In the case of console gaming, the provisions are the game console itself, the room where the console is situated (often a player's living room), and other players to play with. The purpose of leisure activities is "the provisioning of satisfaction, fun" [5, p. 3]. In particular, the focused sociability of gaming basically takes its point of departure in a common agreement on the rules of

the games played. As such, gaming is a highly codified form of social interaction and, in the case of multi-player gaming, the possibility of fun is thus, as Fine emphasises, a *social* not a psychological result of the game interaction. The experience of fun very much depends on the group's implicit or explicit adherence to the rules of the game in question.

Games as social safe houses

But what generally makes a game fun? Game sociologist Roger Callois, in continuation of Johan Huizinaga's work, tells us that gaming is as an activity which is distinguished from everyday life in several aspects: it is an activity which is free, separate, uncertain and unproductive; unlike real life activities, playing a game does not generate any material value or wealth and is not governed by the entropy of material reality (all can be restored). Most importantly, Callois states that games are "free unreality": to play (a game) is to suspend oneself from reality, and to place oneself within a "delimitation of space and time" and in that sense, one can argue that gaming is not that different from the act of make-believe we engage in when we have to do with a piece of representational art such as a novel or painting that tries to draw us into another world. Engagement in a game partly comes about through the act of "creating belief" in the world system it imposes on us and by interpreting game world events on the basis of what the game in question has presented to us as its laws and internal logic. Accordingly, in this specific form of escape from everyday reality, it is our grad-

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[2] I have, for this pilot study, restricted myself to a restricted and more well-known body of literature on television, video games and popular culture by Jerslev [9], Grossberg [8], Morley [13], Buckingham [2] and Lull [12]. This selection of literature is only suggestive of the number of studies within this field.

ual mastering of the specific rules of a game world, and thereby 'the world' itself, which provides the experience of fun; thus I would argue that, on a structural level, fun resides in the oscillation between continously enjoying being faced with the new challenges the game offers and experiencing a succesful progress through the game by our mastering of the rules through our skills and actions.

Games and reality

However, in understanding "fun", we must also understand the relation between games and reality. Caillois argued that although games are not a derivation of "serious" culture (war, rites and so forth), they do exist on parallel lines to this, in a safe space in which you can play out impulses and attitudes which you are also influenced by in everyday life, but without the consequences which they would have in this life. Herein lies the cultural fertility and the sociological interest of games: they reveal the "character, pattern and values of every society", repeated and negotiated in a safe playground, a special social setting. The second-order reality nature of the game or pretense-play (in Bateson's example, the playful bite refers to a bite which has and will never take place) makes possible a full-scale enactment of that which you might never dare if this was for "real".

> The resemblance between the process of therapy and the phenomenon of play is, in fact, profound. Both occur within a delimited psychological frame, a spatial and temporal bounding of a set of interactive messages. *In both play and therapy, the messages have a special and peculiar relationship to a more concrete or basic reality. Just as the pseudocombat of play is not real combat, so also the pseudolove and pseudohate of therapy are not real love and hate. The "transfer" is discriminated from real love and real hate by signals invoking the psychological frame; and indeed it is this frame which permits the transfer to reach its full intensity* and to be discussed between patient and therapist. [1, p. 191, my emphasis]

As Goffman says "An encounter provides a world for its for its participants, but the character and stability of this world is intimately related to its selective relationship to the wider one" [7, p. 71] - i.e. that which one recognises as debatable within the given encounter and that which "we do not talk about". Games are specially successful or "fun" activities exactly because following their rules makes it easy for us to know what is relevant and irrelevant; we can be engulfed by the immediate reality they present to us without having interpretational problems or having to constantly shift between different modes of social behaviour:

> To be at ease in a situation is to be properly subject to these rules, entranced by the meanings they generate and stabilize; to be ill at ease means that one is ungrasped by immediate reality and that one loosens that grasp that others have of it. [7, pp. 72]

"Gaming" or playing is thus a form of activity, which creates a successful setting for interaction, social as well as manipulative (controlling and mastering the characters in the game, mastering the social game of playing without committing any blunders). Adhering to the rules for interaction laid down by the game system (or, alternatively, communally try to disobey them by exchanging "cheats" and short-cuts), there is no doubt as to the relation between the given world (focused gathering) and us. Clear-cut and unbendable rules make it easy to adjust and perform with failure. Because gaming is just "play", you have the pleasure of competing with others in a way that is not physically dangerous, nor has any serious consequences for your everyday social relations. Even if

the event of "winning" is something which has significance also outside the game – such as when a player turns to the other player and says "Ha, ha I won over you" (the "you" s/he addresses here is clearly the player herself, not the character in the game), this "real" victory has no social significance outside the gaming situation (professional gaming where you win cash prices might be an exception), and it remains socially safe to verbalise and brag over your victory.[3]

RESEACHING SOCIAL INTERACTION: GAMING AS AN AFFECTIVE ALLIANCE

If the sociologists can help explain the attractiveness of games as a 'fun' form of social interaction, can cultural studies tell us more about the attractiveness of games as a specific type of cultural activity? Can viewing games as a popular culture activity, like watching soaps or listening to pop & rock music, tell us more about why it is fun activity and how we should study it as such? The sensibility of popular culture is that of multiplicity of affective investments in activities which "provide a certain measure of enjoyment and pleasure" [8, p. 74] or as Jerslev summarises Grossberg, "a number of contextually defined stagings and experiences of 'having fun'" [9, p. 33]. *Affective alliances* are the concrete manifestations of popular culture formations, they are groups of people who come together around activities which are limited in time and has as a primary goal of achieving affect on a very basic level, effecting both body and emotion (for instance rock fans listening and dancing

to rock music). In an elaboration of this notion of sensibility, Jerslev convincingly argues, that this sensibility does not decide the choice of certain "texts" and genres, but comes about *through* the choice of which texts to engage with. An alliance is made in the moment of choosing what is the common interest a group will take shape around. Taking the concept even further, it seems obvious to also describe gaming as an affective alliance which does in fact *directly* affect the body (in the case of console games through the use of haptics, and by inducing feelings of vertigo and spatial confusion though the presentation of the game environment) and your emotional state (excitement when you win, anger when you loose).[4] In this context, it is worth noting that social interaction in the game situation sometimes explicitly evolves around the verbalisation of the bodily reactions the players experience, as when one of our test players loudly exclaimed to the other players during the first stages of playing SMB: "It's like riding a bike when you are drunk!"

Even watching other playing SMB can be fun
Studying game alliances
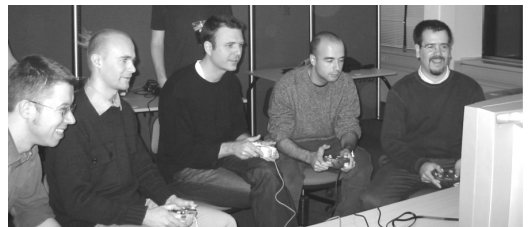
[3] For a further elaboartion of games as only "half-fiction" see Juul, 1999, 2003

But how do we as researchers study these affective alliances? In the 1990's, Media Studies have experienced an ethnographic turn, a shift of focus from studying the effect of the reception to the process of reception; observing not what the media does to us but what "minds do with the media" [13, p. 9] and the "how" of the activity itself. Studies of effect and use are now also conducted in specific *"micro-contexts of consumption"*, for instance by studying the ways a particular family watches TV and how the TV, in return, structures family life [12], [13] or how a group of girls interact during the viewing of a horror video movie [9]. Studies like those mentioned above reveal that an activity, like watching video, is just but a part of this focused social experience; for instance when young people come together to watch video, this activity also creates a space in which discussion of difficult or proscribed subjects is possible [9]. Understanding the "power of the media" must include studying the relationship between the "text" and the active audience; studying not only observable social interaction but how the dynamics of viewing (the choice of programme types, family positions in the living room, cultural background of the viewers) in this particular social practice unfolds, will provide us with a opportunity to study the influence of for instance family power relations, gender and cultural background on both reception and social interaction around the activity. Likewise, actual experience tells us that likewise gaming can just be an excuse for "hanging out", giving people (friends, colleagues) the opportunity to compete and mock each other in a context, where you can safely display feelings such as anger, annoyance, revengefulness and scorn without any repercussions because the "meta-frame" of this mode of communication is that is "just for fun". In the case at hand, this means studying not how SMB is played but the process and activity of playing itself, observing the participants in a realistic playing context, as close to the domestic setting, in which playing normally takes place, as possible.

SMB AS A FUN GAME:
TESTING THE ACTIVITY OF PLAYING SMB

To examine some of the issues presented above, I decided to do a pilot study of the relation between social interaction, gameplay and the experience of fun when playing SMB in a group, in collaboration with some of my colleagues which were also eager to study how people engaged with SMB in practice, albeit for other reasons. I was curious to examine whether the experience of fun would be different, depending on whether you were an inexperienced player or not. It was my initial hypothesis that SMB is a game that is so easy to master that even inexperienced players are soon able to compete against other players with a fair chance of success; this would explain why even non-gamers find this game 'fun'. The game, which is in itself rather "childish" (see also Tosca elsewhere in this paper for an elaboration of this), affords and creates a situation where childish behaviour, such as shouting at and teasing other players is allowed, therefore I particularly wanted to observe adults playing to see if they would "fall into" this behaviour, even if they did not know each other in advance.

Research design

For our study (for further descriptions, see also Tosca and Egenfeldt-Nielsen elsewhere in this collection), we decided to invite two groups of players to a SMB game session: a group consisting of inexperienced or very casual games and another group consisting of experienced, "hard-core" gamers. All players were students, either at the IT University or the University of Copenhagen. They were all between 20 and 30 years old. The collected group consisted of two young women, who were both inexperienced players and seven men. At the game session, I gave them two questionnaires with questions related to

their gaming experiences, one before and one after the actual game test, and supported the question-naires with participant observation which consisted mainly of note taking and photos. Apart from map-ping the players experience with playing, the inten-tion of the questionnaires was to make the players verbalise what they think is the "fun" part of playing and to examine whether they, after actually having played SMB, thought of this particular game as a fun game and why. This was done by giving them both multiple choice answers and open space questions. To encourage and enable the feeling of the intimacy of the living room, the test took place in a graduate students office, filled with shelves and books, posters and personal items of the students, and several games and consoles. This was as close to a "homely" setting we could get at the university.[4]

Results
Gaming experience
The five inexperienced players all confirmed on the questionnaire that they rarely played games max 5-6 times year), whereas the four experienced players all stated that they played several times a month. No members or either group had tried to play SMB before. When the inexperienced players played, four out of five did is as part of as social activity, but to this question (which provided them with the possibil-ity of more than one answer), several of the inexpe-rienced players also answered that they occasionally played games "because they are easy to play". Equally, judging from the free answers to what made

a game fun in their opinion, a 'fun' game to this type of players is a game, which is primarily easy to learn and to play.

The experience of SMB
After the game session, the players on the question-naire was asked if they would play SMB again; if they found the game easy to learn; what part of the game they preferred, and if they would like to play SMB with others or alone or both in the future. Finally, as an open question, I asked them that if they found the game fun, what aspects of it in particular did they find funny?

- Inexperienced players and SMB
Of the options offered on a scale measuring the learning curve of the game, in the group of inexperi-enced players, one found it "very easy" to learn to play, two "easy but took a bit time to learn" and two found it "a bit difficult". The girls both stated that they did not feel like playing SMB again, and they were notably also the two players who in practice had the most difficulties controlling and understand-ing the gameplay.[5] In the inexperienced group, four out of five wanted to play with at least one other player, two preferred to play again just one other player, because as they themselves put it "it is easier to overview what one other player does". In their own response to what makes SMB more interesting as a game played with others, four players stated that the game is more fun with others, one even commenting that SMB "would perhaps be fun as a

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[4] For a further study of the effects of vertigo and physical involvement in the game space, see Johansson elsewhere in this paper collection.

[5] It should be duely noted that it does in fact take more time to orient yourself in the game in the multi-player mode, especially if

you are four players. In four player mode, the screen is split into four smaller screens dis-playing each player's monkey and his/her track, and it is much more difficult to get an overview of the game on this divided game screen.

beer drinking game". However, when asked about what they themselves thought were the "fun" elements of SMB, only one in this group emphasised the social element.

- Experienced players and SMB

All players in the experienced group stated that they would not mind playing SMB again and that they would prefer to play the game with both with others and alone. One confessed that he would play alone to practice so he could easier beat the others. However, all these players emphasised that it was the social interaction and competition against other players they personally thought provided the fun elements of the game. One describes SMB as "100% a social game!" another states that the game has a "good potential for bragging rights", a third one writes "It gives you good opportunities to tease each other", finally one outright comments that "the more people, you can gloat over, the better!"

> The experience of fun seems to be closely related to the mastering of the game

The researcher's perspective

From the observer's point of view, the group of experienced players seemingly had "more fun" than the inexperienced group and quickly started shouting and yelling at each other, even though they did not know each others in advance (two players explicitly mentions the "shouting and yelling" as an intrinsic part of the game experience). It is tempting to relate this slipping quickly into "having fun"-mode to the ease with which all players picked up the game and learned to control the ball. In the group of inexperienced players, the young women were not as fast as the present young men in picking up the game and throughout the test session they had problems with mastering the controls on the joypad and orienting themselves in the game. Following, this lack of adaptation to the game resulted in the girls always coming in as the last monkeys in goal in the competition games, both on the track and in the races, which in the long run made them appear less interested in playing than the men. Even though several members of the group turned out to know each other in advance, this group shouted and yelled less at each other, and I surmise there must be a relation between the inequality of the players and the either more or less social acceptability of bragging of your winnings or mocking. It is "bad style" to gloat over someone who are obviously a much worse player than you – whereas you do not commit a faux pas if you gloat over a player on the same level as you. Nevertheless, it did seem that the game overall appealed to all the test players

involved, because it was so relatively easy to learn and use and as its childish presentation of the game character's emotions did indeed ease the social interaction, centering around the competition parts of the game and the character's reactions to their wins or losses.

FURTHER RESEARCH

A consumer survey made by IDSA (the American Game Producers Association) in 2001 revealed that 59 percent of the American respondents play with friends, and most play with a member or members of their family, whether their siblings, spouses, a parent or extended family. 33 percent play with brothers and/or sisters, 27 percent play with their spouse, 25 percent play with their parents, and 43 percent play with other family members.[6] This survey indicates that gaming is indeed a social activity that involves family, partners and friends.[7] However, a European survey of children's playing habits from the same year [6] indicates that, at least in the case of children, few family members (parents) seem to participate in their children's gaming culture. As the author of the research report on the survey notes, this marks an important difference from other media like television or books. In addition, in this survey, the children's main reference group is the peer group *of the same gender*. It would be interesting to study these patterns of social interaction in a console gaming context with adult players. Is console gaming something you do with your peers or partner rather than your family, and does this affect your experience of this "living room" activity which does in many other aspects appear to be close to the practice of watching TV and video together? How does your choice of playing partners relate to your experience of "fun"? And what relations to your co-players are revealed through the verbal "abuse" during gameplay that seems to be such an intrinsic part of the "fun-ness" of playing a game like *Super Monkey Ball*? A closer, long-term and situated study of the uses of SMB could also reveal whether the activity of playing SMB will also extend to verbal socialising which goes beyond the strictly game-related talk when players who know each other in advance come together to play. In the opinion of the players themselves, does the "fun of gaming" also include this outside-the-game talk? Only further studies will be able to give the answers to these questions. When designing this future research, this paper will hopefully have proved that we need to integrate game studies with both cultural studies and sociological theory to fully understand the relation between social interaction and fun.

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[6] These numbers taken from http://www.businesswire.com/webbox/bw.051100/201320244.htm

[7] This survey is to a certain degree contradicted by a Danish survey of 620 gamers and their gaming habits. The survey showed that many Danish gamers do no use games to socialise. 68% of the gamers answered that they "play alone" and only 32% play with others (http://www.autofire.dk/under-soegelse/index.html). However, this survey was made in 1999, before the game consoles had really penetrated the Scandinavian market. It would be interesting to see if a similar survey made today would yield the same numbers.

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32.THE APPEAL OF CUTE MONKEYS

Susana Pajares Tosca

ABSTRACT

If we agree with Sega and Nintendo advertising and look at the selling numbers of the game Super Monkey Ball, it seems that its characters, MeeMee, GonGon, Baby and AiAi would have to be some of the most successful computer game characters ever created. The game doesn't have any story, but the monkeys have personality and are ever so cute. Is it possible that the "aesthetics of cuteness" so prevalent in many Japanese consumption and entertainment products has also now conquered Western hearts? This paper examines the construction and reception of the four characters, and reflects about the relationship between the pure visual design element of a game and its success as an entertainment product, including a qualitative study conducted with a number of test subjects exposed to the game.

KEYWORDS
Characters, Character Design, Reception, Cultural Value, Cuteness

INTRODUCTION: Super Monkey Ball's Characters

The characters in *Super Monkey Ball* are marketed as one of the main attractions of the game, with an explicit exploitation of "cuteness" as a compelling design quality:

> "*Super Monkey Ball* challenges players to control cute little monkeys who run around in transparent balls not unlike hamster balls".[1]

The relationship to hamsters, that was also remarked on by our test subjects (see test description below), takes the game into the realm of childhood and communicates softness and a certain meaninglessness of the life of creatures that spend their time running inside a ball that goes nowhere. Here, however, the cuteness and the running have a purpose, as Sega advertises:

> "Adorable, heart-stealing characters make gameplay addictive".[2]

This is a tricky argument. If we listen to most game designers (for example in 11[3]), gameplay becomes addictive exclusively depending on how good gameplay itself is, and compelling characters, while a bonus, are not always necessary for

[1] http://www.nintendo.com/games/gamepage/gamepage_main.jsp?gameId=617

[2] Fron Sega's website about the game: http://www.sega.com/games/gamecube/post_gamecubegame.jhtml?PRODID=823

[3] No page number as I have used the Internet version.

a game to triumph. Sega's statement concedes high relevance to the design of the game world, and it is the purpose of this paper to explore this argument further: how important are the characters in shaping our experience of *Super Monkey Ball*?

Image 1: From left to right: Meemee, Baby, Aiai and Gongon.

Sega makes an effort to present the four characters as four independent and different entities with their own personality, even though they all have the same in-game abilities:

Meemee- ''She's adorable and sweet in her little mini-skirt and bow, but don't be fooled by her dainty demeanor, she's a serious contender (...)''

Baby- ''While the other monkeys run full throttle, Baby sports the fastest crawling you've ever seen. Complete with pacifier, this little chimp can wipe out the competition with the best of 'em.''

Aiai- ''He's the frontman for Super Monkey Ball, but he hasn't let it go to his head. Aiai keeps his focus on the two important tasks at hand, banan-as and winning.''

Gongon- He grunts, he jumps un and down and claps, he's Gongon the gorilla. (...) Put him to the test and you won't be sorry.''

The differences between them are only sensorial: appearance, movements (running and in the final victory dance/tears of defeat), and the sounds they produce. In the second version of the game, they even have a personal story, as we will comment on in the last part of this paper.

Construction: Character Creation

Cuteness is a design choice that mainly appeals to children and their parents, and in this case agrees with the popular perception of the *Gamecube* console as oriented towards the younger market. According to game design theorists, Rollings and Adams, cuteness causes empathy and makes players relate to game characters in a similar way as they would to a pet or a baby. They think that *Super Monkey Ball* uses cuteness ''to good effect'':

> Compared to fully grown animals, baby animals have large heads and eyes with respect to their body sizes. This can be exploited by a knowledge-able designer to create a 'cute-appeal'. Usually, this approach is aimed specifically at the younger game players. The monkey characters follow Morris's super-sense guidelines –large heads; large round eyes; and comparatively small bodies (1, p 124).

They also warn us that cuteness works only if the games are good, like in the case of Sonic. However, another designer, Jason Rubin states that, ''if the character fails, then the game fails'' (11), suggesting that character design might be more decisive than we would initially think. Toby Gard's theory is that character design has become more important as technical limitations have diminished. In the early days of computer games, a character could be a tiny human-like blob of only a few pixels (4), but as graphics have become more and more sophisticat-ed, this simplistic approach has stopped being

acceptable, so that players expect sophisticated graphics, a change that has nothing to do with gameplay.

However, advanced character design doesn't obligatory mean realism. *Super Monkey Ball* has chosen the way of humour and caricature: a cartoon aesthetics. In *Understanding Comics*, Scott McCloud explains that the more "cartoony" a face is, the more universal it becomes, or the easier to identify oneself with it (8, p. 31). According to him, Japanese comic conventions depict negative characters in a hyper-realistic way, so that the reader cannot identify with them, while the "good-guys" are drawn with simpler lines (8, p. 44). As an example, we could say that Donkey Kong is a more realistic monkey than our SMB monkeys (a gorilla in this case), and he definitely looks more menacing than them. But even if we consider a humoristic cartoon approach to a monkey, such as Paul Frank's, the body is longer and its shape more closer to reality than in the case of our monkeys.
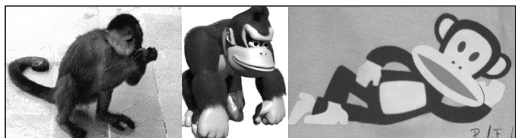

Figure 2: A real monkey, Donkey Kong, the Paul Frank monkey

When considering graphic representation, simplicity means selection. If we compare the SMB monkeys to real monkeys, stylization occurs by using exaggerated monkey heads (where the ears are very distinctive) and indeterminate baby-like bodies that could just as well be hampsters or any other small animal. There is no doubt that babies are cute. According to Pease and Pease, in their popular book about gender differences, the cuteness could go further than just invoking empathy:

> Progesterone is released when a woman sees a baby and research shows it is the baby's shape that triggers the release of the hormone. A baby has short, stubby arms and legs, a round, plump torso, oversized head and large eyes, and these shapes are known as 'releasers'. The reaction to this shape is so strong that the hormone is also released when a woman sees these shapes in an object like a stuffed toy. This is why toys such as teddy bears and baby animals sell so well to females and long, gangly-shaped toys don't."
> (10, p. 172)

We will see later what our test subjects think about this in respect to their gender. After the baby shape, the most characteristic visual trait of the SMB monkeys is their caricature-like displays of emotion. When they win, they each have small victory dances and shrieks of pleasure; when they lose, they have their own way of crying and expressing dismay. This emotion is perfectly codified according to Japanese cartoon conventions, and it works strongly even if it isn't realistic.

We could wonder if Japanese aesthetics can be codified and appreciated by a Western audience, and we indeed have some very good examples of this aesthetics crossing frontiers, for example with the massive success of Pokémon. According to game designer Tsunekazu Ishihara, the success of Pokémon is not entirely due to the visual appearance of their characters (also popularly labelled as "cute"), but to the fact that the game is based in competition amongst the different monsters. Preferring one monster or another is not a matter of looks, "for each Pokémon there is weight, height, effective offense/defense and other attributes" (11).

This doesn't apply to the SMB monkeys, who all have exactly the same features pertaining to gameplay. On top of that, they have no history, no catchphrases, no apparent motivation other than to win, they only have *a look*. I stress this because I think they belong to a special kind of computer game characters that I will call *iconic*[4,] more related to products such as Hello Kitty[5] than to any other kind of computer game character. The connection with Hello Kitty is not only the cuteness, but also their complete emptiness (no story, no gameplay differences), other than a "story" given by the producing company, that cannot be perceived in any direct way when interacting with the product. These characters wouldn't adjust to Meretzky's recommendations for good character creation (9), and don't fit in any of the categories proposed by Gard:

"The Avatar is simply a visual representation of the player's presence within the game world. The Actor is a character distinct from the player, with its own personality, characteristics, and, to some extent, mind." (4)

The SMB characters are more than an avatar (that could just be a hand or a pointer), but they are not really actors, as they don't have any characteristics apart from the visual. They just happen to be a humorous addition to the balls, but their presence is not unimportant, as our user tests seem to suggest.

Reception: the tests

These qualitative questionnaires were conceived in order to explore a fuzzy domain area (that of the reception of computer game characters) by gathering qualitative information about the specific perception of *Super Monkey Ball* characters. Whereas the results here cannot be considered valid for all players of SMB, they confirm some of our hypotheses and suggest interesting directions in the reflection about the importance of characters for the game experience, and the use of "cuteness" in videogames.

The tests were based on a set of questions both before and after playing the game[6], directed at finding out people's opinion about the characters. I interviewed four groups of people of both genders, ranging from age 10 to 29, all of Danish nationality. The informants were divided in the following way:

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[4] As it will be explained, iconic doesn't refer to characters who can become media icons, in the popular use of the word, such as like Lara Croft (whose name and appearance have become a brand name to sell clothes, accessories, films, etc.); Lara Croft would be an actor in Gard's terms.

[5] http://www.sanrio.com

[6] For more information about some of the test sessions, please refer to Klastrup's article.

- Group 1. Five inexperienced players in their twenties, 2 female and 3 male.
- Group 2. Four experienced male players in their twenties.
- Group 3. Six experienced male players (from 10 to 14 years old)
- Group 4. Three inexperienced female players (ages 11 and 12)

The first part of the test was aimed at finding out how the test subjects related to computer game characters in general, and also to register their first-sight impression of the Super Monkey Ball characters before having played the game. This first part also helped estimate the subjects' knowledge of computer games (if they knew many of the characters or used established genres to classify them) and their credibility as informants (for example by considering how they responded to non politically-correct characters such as Lara Croft). The questions were intended to be as open as possible in this first round, letting players come up with their own classification and express their ideas about various computer characters:

1. Sort out the given computer game characters[7] in groups (2, 3 or 4) as you choose, and specify your sorting criteria.

2. Write 3 adjectives describing the following characters according to what their pictures suggest:

Pikatchu (Pokémon), Lara Croft (Tomb Raider), Super Monkey Ball, Hitman.

3. Why would you say that character X is (insert adjective)? (Here I would ask them to explain one of the adjectives used in the answer to question 3, usually I would try to make them explain the use of the word "cute" or "sweet", adjectives often applied to Pikatchu or the monkeys).

Figure 3: The main game

The second part of the test intended to see if their perception of the monkey characters had changed after playing the game for a while, and to find the connection (if any) between their enjoyment of the game (was it fun, would they play it again) with their perception of the characters. The questions were:

1. How would you describe the four monkey's personality? (Tests subjects were given a picture of each monkey with their name on it)
2. What is your favorite monkey and why?
3. How important (if at all) do you think the characters are for the experience of playing this game?

[7] They were given unnamed pictures of the following characters/games: Crash Bandicoot, Super Monkey Ball, Sonic, Monkey Island, Mario, Zelda, The Longest Journey, Lara Croft, Hitman, Grim Fandango, Everquest, Donkey Kong, Crazy Taxi, Pikatchu, Final Fantasy X.

After the tests, many of the subjects would often voluntarily continue the discussion about the importance of characters in computer games, cuteness, etc. offering significant insights that we also recorded. The questions themselves yielded interesting results that I will summarize here due to the lack of space:

- All test subjects showed a remarkable ability to sort out the proposed character pictures into regular piles, experienced players after game genres, inexperienced players after visual appearance.

- Describing computer game characters seemed very tied to knowledge of computer game genres, and an attempt at being politically correct (few subjects dared describe Lara Croft as "sexy" or similar). Some subjects had a neutral or negative opinion of the monkey characters before playing, that turned into a positive one after having played.

- The four monkeys were described mostly as: cartoonish, sweet, cute, Japanese, childish, small, and in some cases irritating/boring.

- There seemed to be an opposition cute-cool.

- The adult subjects were not too attracted to the characters' look in the first round (or even manifested clear hostility), one said: "I don't find them cute, but I can recognize that they are meant to be so". In the second round, however, they reported they had enjoyed the character's "crazy appearance", and accorded them a high "kitsch value".

- When girls were asked why they had used the word "cute" (which was nowhere in the questionnaires so as not to force this meaning on the test subjects), they were very conscious of the appearance of the monkeys: "they have big eyes and funny mouths", "they have big eyes and ears, they have a big head and body and small arms and legs".

- About the personality of the monkeys, most test subjects thought AiAi and MeeMee were generic, not very interesting, characters: a typical male hero and a typical girl. They all had more adjectives for Baby or Gongon, whom they found interesting for opposite reasons: Baby for his smallness and cuteness, and Gongon for being crazy and always angry. They thought these two were more humorous than the others.

- The favourite monkey was Baby, followed by far by Gongon, a result that was initially somewhat surprising taking into account that there were more male test subjects, as one player puts it "it is cool to win with baby because he is so much smaller, it is sort of worse for the others".

We can summarize the results of the test and relate them to the previous discussion by saying that the test subjects didn't really find a lot of difference between the characters themselves, and the value they placed on them was always tied to how they had performed in the game and which character they had played with. The characters were thus a "joke" to be played against the other players. When winning, it was fun to win with a small character (Baby), with a bully (Gongon), a girlie one (MeeMee) or a happy one (Aiai), not because of the characters themselves, but because their movements and sounds gave a running commentary (of one kind or another) on the player's performance. That is, reception of the monkeys was always tied to gameplay, as they were perceived as bringing humour to an otherwise rather simple (but very enjoyable) platform game. In this connection, the test subjects found them excellently designed, and two subjects report-

ed that it could have also been another animal (hamster, chickens) if drawn in the same way, "but not people, with humans inside the ball it wouldn't have been such fun".

It was interesting to find that there wasn't a genre divide as one might initially expect (except for the girls' higher conscience about the baby-like appearance of the monkeys making them likeable).

When asked if the characters were important for the experience of the game, the test subjects were clear: the characters are very funny and attractive, but if the game wasn't good, it wouldn't matter[8]. They thought that the characters made the game comically original, although there wasn't usually time to look at them, except for the part where they got up the podium after having won and people could see how their character had done in the game (and their cries of victory and small dances). The same characters in a bad game would be disastrous, but they were convinced that the monkeys were so funny that it could make a difference, for example about preferring one good game to another, that is, they have more than an illustration value.

Playing the game was in a way *performing* the characters, as some of the players, especially the younger groups, adopted their monkey's personalities when playing (loud and bully-like or shrieking and teasing, for example). This basic roleplaying, and even its simpler adult version of "look how happy I

am" (commented about the monkey's victory dance on the podium), reveal the SMB characters as stereotypical masks that players can wear in order to give some frames to otherwise shapeless[9] fun. In order for the frames to work in this realm of playful meaning with no real consequences, the characters have to be extreme caricatures in order to succeed, and their very emptiness is thus an advantage.

Discussion: On Cuteness/Kawaii

In our tests, "cute" was the more often used adjective to describe these characters. Cuteness is a controversial subject that has been discussed in relationship to Japanese culture, as it is seen as something that goes beyond a fashion statement, and invades all areas of life:

> "Kawaii style dominated Japanese popular culture in the 1980's. Kawaii meaning 'cute' in English essentially means childlike, and by association: adorable, innocent, simple, gentle, and vulnerable. Cute style saturated design and the mass media whilst they were expanding rapidly in Japan between the mid seventies and the mid eighties. Cute style reached its height of saccharine intensity in the early 1980s. Cute fashion gradually evolved from a pretty serious, pink, romanticism of the early 1980s, to a more humorous, kitsch, and androgynous style which began to fade in the early 1990s - before making a return in the mid-nineties as Japan celebrated its own version of the seventies-retro. In the mid- nineties

[8] One of the adult subjects was explicitly unhappy with being tested about his liking or disliking the characters, as he felt the questionnaire gave too much importance to something that was accessory to the game.

[9] Shapeless as in "devoid of story", not devoid of rules as there are many in this game.

Japanese cute returned as the more kitsch and knowing 'super- cute' (chou-kawaii)." (6)

Following Bremmer, who has looked into the cuteness matter in relationship to Japanese feminist writing, cuteness is not innocent, but rather about the cultural domination and exploitation of young women, encouraged to act submissively and innocently rather than maturely and assertively. Bremmer cannot see the appeal that this could have for adults: "I get the part about Hello Kitty being cute, innocent and sentimental. (...) I just can't understand why this would be of interest to anyone beyond the age of 10." (2)
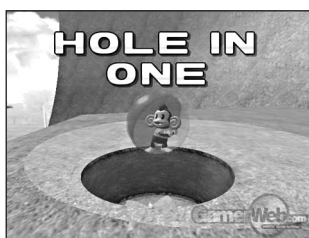

Figure 4: Victory Dance

But Bremmer misses one important point that our adult test subjects were eager to establish from the beginning: childish cuteness has a very clear kitsch value that happens to be fashionable now. This means that the same product can appeal to both children and adults for very different reasons, but not all cute characters enjoy this double target

group appeal, indeed very few, for example the Teletubbies are only for children, while Snoopy was also for adults in the 80s (with a clear kitsch value). However it is not clear why some images manage to attract also adults and why some others don´t; one of the test subjects mentioned the fact that Japanese was "cool" right now in Europe[10,] and that might have something to do with our appreciation of the four monkeys.

For Kinsella, Japan is Europe´s object of desire, and our fascination with some Japanese cultural products is a sign of this (6). For her, Japanese youth have identified maturity with boredom, and cuteness with childhood and therefore freedom. She relates the triumph of cuteness to a loss of political ideology, as people prefer to be comforted with images of dependence and passivity, a thought echoed by game businessman Gaku Kawaguchi (5), who however doesn´t see any harm in the "innocent" comfort that cuteness provides.

The question of contemporary and cross-cultural changes in youth ideology is too big for the scope of this paper, but I think that we cannot entirely import the Japanese discussion in order to consider the reception of characters from a particular game, because as we have seen, cuteness in Japan goes beyond specific design and into all areas of life: clothing, behaviour, etc. from the mid seventies, according to Kinsella. However, maybe due to the influence of this point of view, cuteness itself is per-

[10] Indeed, women in their twenties and thirties can be seen in the streets of such different places as Copenhagen or Madrid wearing small tight T-shirts with manga illustrations printed on them.

ceived as dangerous and pernicious in most of the (few) papers dealing with the use of cuteness in the West. For example, in "The Cult of Cute" (7), Aaron Marcus identifies a cuteness trend in the West, like the transformation of the original, rather rodent like, Mickey Mouse into something cuter and cuter (7, p.32). He also thinks that cuteness "appeals to the child in each of us, and like comfort food, we seek out cute things when we need reassurance during stress" (32). But the dangers of cuteness are always there, namely those of turning adults, specially young women, into "powerless children" (7, p. 32).

In my opinion, Marcus´ theory places consumers in a role of near dupes that unquestioningly adopt the ideology of the products they consume, or are entertained by, while the reality of consumption is much more complex than that. Fogarasi takes this a step beyond as he relates cuteness (Hello Kitty) with an effacement of the self and materiality. For him, kitsch is an answer to boredom: we create artificial desire/stereotypes that represent "the commodification of cultural otherness" (3).

While Fugarasi´s analysis is quite appealing, I would like to stress again the active role that consumers play in relationship to the decision of what will be transformed into kitsch (often against the product´s designer wishes). This is particularly true in the case of computer game characters, since people's interaction with them goes beyond *consuming* and into *playing*. Our impression of Hello Kitty wouldn't be at all the same if our only experience of that character came from the Hello Kitty 3D football computer game[11]. It is difficult to see computer characters exclusively as passive and weak (unless they are just part of the stage for example to be "saved" by other characters). If they are main characters controlled by the players, they move, act, and usually go through traumatic experiences such as death and coming back to life.

This is proven in our test sessions, as the characters were met with near-hostility in the first round by most adult subjects (childish, silly, "I am 25, for God's sake") and with enthusiasm in the second round after having played with them. Younger players were never hostile, and found it easier to identify themselves with soft, small and likeable characters (also in the first test question when they had to sort out computer characters). For the adult players, cuteness can be initially annoying, as they project their opinions of cuteness on the design of the characters (very much in line with the theories examined here). However, after playing the game the characters' cuteness is evaluated in another, more positive, way, by stressing their sense of humour and the kitsch value of adults enjoying something so obviously infantile. In this connection, cuteness is emptied of negative ideological meaning as it is situated within the frame of a game, a "non real" space where liking childish things is all right for a while, and where the appearance of the characters becomes subordinate to their more important function in the game.

[11] http://www.sanriotown.com/football-cup2002/

Conclusions: How Iconic Characters Work

One of the things that has become clear during our work in this paper is that character design in computer games cannot be considered according to the same parameters we use to judge design (and consumption) of other kinds of products (entertainment or fashion). The perception of the monkeys' cuteness in a game context is different from their perception as isolated illustrations, so that the same subject would respond differently to the same characters if they encountered them printed on a T-shirt or while playing a game such as SMB.

From the point of view of game character design, we have argued for a category of ''iconic characters'' reserved for those playing characters which have visual design, minimal personality and no specificity of in-game actions. Players don't relate to this characters in the same way as they relate to avatars or actors (after Gard), or to their characters in a roleplaying game. Avatars are a non-intrusive representation of ourselves, actors are always part of a story (or have a story, albeit minimal sometimes), and roleplaying characters have very different abilities that we can raise according to our performance.

Iconic characters are only a bit less open than avatars, in that they provide a frame/mask that the player can choose to use in order to add another dimension to the social interaction in the game. They are used by the players to provide a humorous relief to the competition sessions, as they decide to play along the caricature victory/sadness parade, and even sometimes to take on the personalities of their ''masks'': hero, girlie, bully, baby. This playful value is not necessary for the game to take place, but it is appreciated and brings the groups together as we have observed in the sessions.

Iconic characters don't necessarily have to be cute, but cuteness successfully plays with humour and caricature and can appeal to children (direct way) and adults (indirect way: kitsch) at the same time. It is very difficult to imagine another approach than cuteness in order to create successful iconic characters as we have defined them here, because humorous characters who were not somehow visually appealing (cute) might not generate so much acceptance.

In this way, a pure visual design element (cute characters) provides a very special and appreciated game experience that is constructed around the actual gameplay but is out of it, as players can also choose not to join it and it wouldn't be active in single player mode[12]. At the same time, the possible negative values assigned to cuteness by adult players are neutralized when the characters are interacted with during gameplay, so that the consciousness of the characters being silly or childish is rationalized through the appeal to kitsch.

A very important condition for kitsch to function as such is that it has to be recognized by a community. Thus, iconic characters are perceived as such by the

[12] Single playing of SMB doesn't create any attachment to the characters, as I have observed in my own (and others) playing sessions.

player community of one game, who can share their appreciation of something that the people outside the community cannot probably understand. This is usually quickly picked on by the game companies, who start producing merchandising in an effort to cater for the kitsch-thirst of their fan communities (in the case of children players, merchandising wouldn't have an ironic function, they really play with the game character dolls).

Sega has noticed the iconic value of the monkeys and produced (or licensed) a lot of related products, an example is the "Sega watches"[13], or watches customized with your favourite characters. Here players can make their own watch with the monkeys, choosing their own clip art, and there are models for children and adults.

However, the game designers haven't quite understood the function of these iconic characters in relationship to the game experience itself as analized above. In the second instantiation of this game, Super Monkey Ball 2, the same characters are integrated into a similar main game and even more party (social) games, with the addition of a "story mode", which tries to turn these iconic characters into actors, "the all-new story mode gives even more personality to the lovable monkeys". The main game is framed into this "story mode" where the four monkeys have to fight the evil Dr. Bad-Boon, who has stolen all the bananas from Jungle Island and plots the monkeys' destruction. The cutscenes between

the worlds (each world has 10 "levels" or tests) are embarrassingly badly scripted and have much worse graphics than the game, featuring the monkeys pursuing Dr. Bad-Boon across different worlds in order to recover the bananas he stole from their island. This story doesn't add anything to the game experience, quite the opposite as it tries to force a narrative into a game that doesn't need it, but worse still, the characters are somehow deprived of their iconic function as they are turned into bad actors in a bad story[14].

They were much more successful characters in the first game, where visual design was exquisite and the monkeys represented perfect stereotypes for the players to toy with. Contrary to what some game designers and producers seem to think, there isn't always a need for a story in a game. Iconic characters provide the perfect avenue for player expression, as they graphically (and in exaggerated caricatures) represent the most important outcomes of a game session: winning and losing.

Fortunately, hardened SMB players have ignored the story-mode of SMB2 and continued playing as before, some even incorporating the iconic characters into their normal day activities. As a friend and fellow-player of SMB told me the other day when disagreeing about the practicalities of arranging a dinner:

"Stop being Gongon and try to collaborate"

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[13] Sega games, http://ewdc.ewatchfactory. com/ews_sega_list2

[14] In the instruction booklet included with the game we can read about the monkeys' life story: AiAi and Meemee liked each other, but Dr. Bad-Boon (who was in love with Meemee) sent Gongon to separate them and take control of their island. Therefore, Baby, who in a few years will be born out of Aiai and Meemee's union, has come back from the future to prevent Gongon's victory and therefore collaborate in his own future birth in a simian version of Back to the Future. However, Gongon has changed sides now and the four monkeys are united against Dr. Bad-Boon.

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33. THE OTHER GAME RESEARCHER
PARTICIPATING IN AND WATCHING THE CONSTRUCTION OF BOUNDARIES IN GAME STUDIES

Marinka Copier

ABSTRACT

Game researchers are busy doing game studies: research-ing, writing and publishing articles, organizing confer-ences and creating a curriculum. I will argue that cre-ating a new autonomous discipline such as game studies mainly involves constructing boundaries on different levels. In this article I would like to discuss how we can watch and analyze where and how these boundaries are being constructed, while realizing that I am also partic-ipating in this process. I mainly focus on the construc-tion of borders between game studies and other disci-plines and the ways in which a line is being drawn between game researchers, game designers and gamers. I will argue that Donna Haraway's concept of situated knowledge can help us to realize where and how knowledge is being pro-duced. I will claim we have to look into the empirical situation of game research in order to see that we all produce knowledge from a certain (hybrid) position and perspective.

KEYWORDS

Science and Technology Studies, game researchers, game studies, constructing a discipline, boundary-work, situ-ated knowledge, hybrid researchers

DOING GAME STUDIES

"I am as much of discursive object as the things I study." [12]

Over the last few years a new breed of researchers has come into being: the game researcher. Most of these researchers want to create a new autonomous discipline called game studies.[1] They all enter the field of game studies from somewhere else: from other scientific disciplines such as anthropology, sociol-ogy and film studies but also from the background of a game designer and/or a gamer. They are all busy *doing* game studies: researching, writing and pub-lishing articles, organizing conferences and creating a curriculum. While *par-ticipating in* this occupation myself it gradually became clear to me that cre-ating a new autonomous discipline such as game studies mainly involves constructing boundaries on different levels.

On the content and paradigmatical level for instance this means constructing boundaries between what is a computer game and what is not and deciding

[1] Frans Mäyrä claims that: "Science is created by the scientific community: the verification of results, testing of hypotheses and continuation of research into similar or alternative directions all depends on the existence of a community of other researchers who understand the subject matter, the language and rationale of the research in question. Until then, the person will be writing into the void, having trouble getting research funded, published or get-ting any kind of serious feedback." [22]

which games should be studied. It involves drawing a line between the different methodologies and theoretical perspectives and deciding which methodologies and theories should be used, as well as constructing boundaries between game studies articles that are conceived as scientific and non-scientific. On the level of the researcher this implies constructing boundaries between who can be a game researcher and decide the above and who cannot. On an institutional level this means constructing boundaries between game studies and other fields and between different institutions involved in researching and 'getting to grips' with games (universities, art schools, industry) that can/are participating in game studies and the ones who are not. To sum up: doing game studies, creating a new discipline, means constructing various boundaries on content, researcher and institutional level and therefore participating in a process of inclusion and exclusion, of constructing the other ('othering') to construct oneself.

While organizing the *Level Up Digital Games Research Conference 2003*[2] and therefore participating strongly in the construction of these boundaries I became increasingly fascinated by the workings of this process of 'othering'. This article is a report of my first reconnaissance exercise in this chaotic process of boundary construction while doing game studies. By presenting some examples of how and where this constructing of boundaries takes place I will argue that we have to *watch* and be aware of this process while we are participating in it. Where are we constructing borders between game studies and other disciplines, between game researchers, game designers and gamers? Which claims belong to game studies? Who is a game researcher? What is game research?

BOUNDARY-WORK

To make more sense of this process of boundary construction I found that the work of Science and Technology Studies (STS) can be very useful. Amongst other things STS analyzes what scientists do as well and the role they play in society, history and culture. Especially the work on demarcating facts, standardization and constructivist notions of making technology and science, can be helpful in understanding how an epistemologically different field as game studies is coming into being and 'freezes' itself by inventing borders.

The STS theory which comes closest to what I would like to do is called 'boundary-work'. The boundary problem focuses on questions such as:

"Where does science leave off, and society –or technology- begin? Where is the border between science and non-science? Which claims or practices are scientific? Who is a scientist? What *is* science?" [10]

Basically there are two perspectives within the STS boundary problem: essentialism and constructivism. Where essentialists search for the unique qualities that set science intrinsically apart from other cultural

[2] I found that organizing a conference especially means constructing boundaries and participating in a process of inclusion and exclusion. Conferences and associations like the Digital Games Research Association (DiGRA) are one of the key sites where game research as an autonomous discipline is being constructed. On the basis of which criteria should abstracts being accepted? Should a scientific conference work together with the gaming industry? Should participants be able to play games at a scientific conference on computer games? Should the university invest money in a conference on computer games? And who decides the above? While I'm writing this article we are still in the process of doing the conference, so these are just some of the issues I will try to analyze after the conference has taken place.

practices, constructivists argue that the separations of science from other knowledge producing activities are social asymmetrical conventions. Therefore they are examining and criticizing when how, and to what end the boundaries of science are drawn and defended. Such processes are known as boundary-work. "Essentialists *do* boundary-work; constructivists *watch* it get done by people in society [...]" [10]

This is why I propose to *watch* the construction of boundaries in games studies and the workings of 'othering' (which claims belong to game studies?). Before turning theories that try to explain the construction of boundaries, I will show what the issue of boundaries involves in game studies by giving some examples of these processes and ask questions about their workings. The examples I will be discussing consist of texts and discussions that I myself have thoroughly enjoyed, and I still find them inspiring for my own work.

The 'othering' of narratology

In 2001 the editorial of the first issue of Gamestudies, the international journal of computer game research (www.gamestudies.org), states: "2001 can be seen as the Year One of *Computer Game Studies* as an emerging, viable, international, academic field." [1]

With the establishment of this game studies journal[3] and the editorial statements Espen Aarseth as an editor tries to claim game studies as a new discipline. Hereby a process of constructing borders between game studies and other disciplines is started up.

Establishing an academic journal means deciding which articles and authors get published, thereby drawing a line between who/ what is included in game research and who/ what is excluded. The main question is how this border is being constructed; what are the criteria and rules on which the board of reviewers (more than 30 researchers) participates in the peer-review process?

"Our primary focus is aesthetic, cultural and communicative aspects of computer games, but any previously unpublished article focused on games and gaming is welcome. Proposed articles should be jargon-free, and should attempt to shed new light on games, rather than simply use games as metaphor or illustration of some other theory or phenomenon."
http://www.gamestudies.org/about.html

The first Gamestudies issue constructs game studies as an autonomous discipline by focusing on questions such as: Are computer games are different from other media? From which perspective should computer games be studied? Who should study computer games? Computer games are different from other media:

"It seems clear that these games, especially multi-player games, combine the aesthetic and the social in a way the old mass media, such as theatre, movies, TV shows and novels never could." [1]

3 Editors: Espen Aarseth (editor-in-chief), Markku Eskelinen, Marie Laure Ryan and Susana Tosca. Editorial assistant: Siobhan Thomas, PR: Torill Mortensen, review editors: Gonzalo Frasca, Jesper Juul and Lisbeth Klastrup. http://www.gamestudies.org/about_team.html

The conclusion of arguing that computer games are different from other media is that games cannot be studied from existing paradigms. Therefore Aarseth states that computer games cannot be analyzed as 'newest self-reinvention of Hollywood' because according to him this means forcing outdated paradigms onto new cultural objects and thereby ignoring the unique aesthetic and social aspects of computer games (Aarseth, 2001) The differences between narratologists and ludologists which is the main theme of this first Gamestudies issue, helps to clarify the distinctiveness of game studies as a new field. Jesper Juul argues :

> "As questions go, this is not a bad one: Do games tell stories? Answering this should tell us both *how* to study games and *who* should study them. The affirmative answer suggests that games are easily studied from within existing paradigms. The negative implies that we must start afresh." [18]

By asking these questions and in giving these answers he constructs the boundaries between a) studying games as stories (narratology) or b) games as games (ludology). The answer to the *who*-question is of course the narratologists or the ludologists. Aarseth makes this issue a political one by first arguing that games cannot be analyzed as a kind of cinema or literature from a narrative perspective and secondly by stating that game studies is being colonized by these fields of study:

> "Games are not a kind of cinema, or literature, but colonising attempts from both these fields have already happened, and no doubt will happen again. And again, until computer game studies emerges as a clearly self-sustained academic field." [1]

By using the negative spatial political metaphor of colonizing a boundary between game studies and other disciplines is consturcted. Aarseth states that games studies should be a new discipline. And let it be clear that I do not only agree with this ambition but I participate actively in it as well for instance by organizing the *Level Up* conference. Aarseth argues that computer games cannot be studied from the existing perspectives and therefore he has to explain why the existing perspectives are not sufficient. According to Aarseth the problem with narratology is that it ignores the essential features of computer games. This is what ludology, 'the discipline that studies game and play activities' [8], tries to capture. Gonzalo Frasca, who first applied the term ludology to computer games, by following Aarseth's arguments in *Cybertext*, states that:

> "Literary theory and narratology have been helpful to understand cybertexts and videogames. [...] However, there is another dimension that has been usually almost ignored when studying this kind of computer software: to analyze them as games." [8]

To do so Frasca turns to an analysis of traditional games. But he notes this research field has some flaws: a) unfortunately it is scattered across different disciplines b) games have less academic status than other objects and c) traditional game research lacks of clear definitions and theories. [6] He thus introduces traditional game theories from Johan Huizinga and Roger Caillois to computer game studies. Frasca argues that ludology helps us to focus on other game elements than narratology, but he calls both perspectives complementary:

> "Our intention is not to replace the narratologic approach, but to complement it. We want to better understand what is the relationship with narrative and videogames; their similarities and differences." [6]

Whereas Frasca leaves room for hybrids (combinations), Aarseth, opts to make the distinction more definitive: games should in the first place be studied as games and in the second place from other perspectives. Markku Eskelinen takes the argument a step further by stating that computer games are remediated games and not remediated narratives:

> "[…] stories are just uninteresting ornaments or gift-wrappings to games, and laying any emphasis on studying these kinds of marketing tools is just a waste of time and energy." [7]

He wants to locate crucial and elementary qualities that set computer games apart from dramatic and narrative situations.

To me it seems that the construction of boundaries between game studies and other disciplines/ fields combine two sets of arguments: content and definition of the object (games are games), institutional (wanting to have a discipline of one's own and resistance to other disciplines taking over). Of course there can be found a number of other related arguments involved such as economical issues.[4] One of them is the difference between game scholars and game designers and between game scholars and gamers.

The 'othering' of game designers and gamers
How are the boundaries between game researchers, game designers and gamers constructed? In his sec-ond editorial for Gamestudies Aarseth asked game research the question: *The dungeon and the Ivory Tower: Vive La Difference ou Liaison Dangereuse?* [4] He introduced the *Sim University*, a game wherein your objective is to establish a program in computer games within three years.

> "You can play the role of Humanist, Computer Scientist, Visual Artist/Designer, Social Scientists, Psychologist, or choose a hybrid background. Against you are the Public, the University Board of Directors, the Funding organizations, your department colleagues, Politicians, your computer lab admins, and one or two alien monster races. As allies you have undergraduates and industry designers." [4]

Aarseth tells us this game is not yet to be built but actually exists and is being played right now in several universities. In this editorial Aarseth introduces the computer game industry and the university as two separate worlds: the dungeon (the computer game industry) and the ivory tower (the university). In 2001 they got together to celebrate the beginning of computer game studies as an autonomous discipline of teaching and research. But one year later Aarseth is wondering if these worlds can actually work together, will it be 'vive la difference ou liaison dangereuse?' Aarseth argues that although the industry and the university work together they are intrinsically different:

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4 At the Manchester game conference Playing with the Future: developments and directions in computer gaming Jon Dovey brought in another interesting argument to this debate, namely that of generations. He stated that the boundary between narratology and ludology is also a generation boundary. Namely between 'older' researchers who work already within an existing paradigm (such as narratology), while the 'young' game researchers want to develop their own paradigm. As I recall this discussion was being held during the panel Playful Futures: Game Cultures and a "New Media Studies" in which Jon Dovey presented this paper "Intertextual Tie Ups: When Narratology Met Ludology", Seth Giddings presented: "Playing with Theory: The Technological Imaginary and a 'New Media Studies'" and Helen Kennedy presented: "Gender, Technicity and Play: Girl Gamers and Online Methodologies". http://les1.man.ac.uk/cric/gamerz/Default.htm

"Research is (or should be) long-term, altruistic, slow, critical. The industry is (or should be) profit-oriented, competitive (in the closed sense), cutting-edge, artistic. Perhaps we only have one thing in common: an interest in the nature of games (and on both sides some of us might not even have that)." [4]

Within his *Sim University* game Aarseth is constructing boundaries between the various roles in game research and between the university and the game industry. But he has to acknowledge that sometimes researching and designing games can go together.[5] He mentions the game researcher/designer 'Leonardos':

"[...] that happen to play one role but could play (and sometimes plays) the other role equally well, but they are a very small subset, and statistically insignificant." [4]

Firstly I would like to argue that Aarseth's 'Leonardos', hybrid game researchers/ game designers are more important than Aarseth suggests. In defence of the hybrid game researcher/ game designer I would like to point out an important example, probably the same Aarseth had in mind: Gonzalo Frasca, who is a game designer but who also developed the concept of ludology and is a game researcher. He, among others, started a debate between narratology and ludology on the basis of which the construction of game studies as

an autonomous discipline takes place. Interesting are also some remarks made by game researchers (who are sometimes also designers) in the monthly Ivory Tower column published at the international game designer's website (IDGA). In the Ivory Tower a member of the Digital Games Research Association shares their thoughts, findings and insights on games:

"Rather than an iconic barrier, this "Ivory Tower" will serve as a bridge among game developers and academic game researchers. The aim is to focus on fundamental game research issues, tying them to concrete examples and game development questions."
(http://www.igda.org/columns/ivorytower/)

Janet Murray for instance focuses in her column on the considerable group of game researchers/ game designers hybrid:

"[...] why individual designers and researchers need to seriously engage one another, and why we should nurture organizations like IGDA and DiGRA that are helping to provide the framework for focused dialogues. We are at a crucial time in the development of Game as an academic discipline. At this early stage, practice and theory are pretty close together, with many of those who are doing academic research about games also very active in making them. This model is not just true for the faculty (like myself and many other DiGRA

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[5] In 2003 he writes in the Ivory Tower column: "One common pitfall, I think, is to regard the two sides [game industry and academia, MC] as monolithic; "the industry" on the one hand as a cash-loaded, anti-intellectual juggernaut with short attention span, and "academe" on the other as a "self- indulgent masturbatory navel-gazing" bunch of ... well, navel-gazers, I suppose. The Academy is really just another industry, with short term production goals (student credits), competition for market share, product launches (new courses) every six months, and if we are very lucky, a bit of creative research at the end of the day, or (more likely) in our spare time." [3]

members), but also for many of the graduate students. For example, two recent Georgia Tech masters degree graduates, Gonzalo Frasca and Chaim Gingold, are working in the games industry and also theorizing about games as an expressive form."[6] [24]

Secondly I would like to add the game researcher/ gamer to the breed of hybrid Leonardos. Not only Frasca crosses the boundary between game researcher, game designer and gamer[7]. At the *Power Up! Computer games and ideology* symposium in Bristol this summer (2003)[8] I found that a lot of presenters not only claimed the identity of a game researcher but also of a gamer by telling how many hours they spend playing *Buffy the vampire slayer* or *Zelda*, or by sharing their ideas about why they liked a game (without being good at it) from a gamers perspective. In his article *Cultural framing of computer/ video games* the game researcher/ designer Kurt Squire[9] argues that game research hopefully will get more sophisticated when:

"[...] a generation of game players move into academic positions, perhaps such poorly defined research studies will be challenged and a more rigorous body of research will evolve." [25]

Furthermore he refers to his own gaming experience when explaining the violence debate in game studies:

"The first generation of gameplayers is now in its 30s. Despite (and perhaps because of) the hundreds of hours I've spent playing war games, I'm pretty much a pacifist. I love Return *to Castle Wolfenstein*, yet I'd never own a gun." [25]

At the courses on computer games I taught over the last year a similar question was often brought to the fore: should a game researcher also be a gamer? The opinion of some students was that when you research games you have to play them; otherwise you can never be an expert on computer games. In her article *Playing with players: potential methodologies for MUDs* Torill Mortensen states the same: in order to analyze MUDs properly the researcher has to play MUDs. Mortensen refers to 'playing with players' as a potential methodology for MUD research:

"In order to study what the actual player derives from a game, I have to use methods that permit me to go beyond the role-figures and the names used on the net, and interview the players I study. But to study the use of the games, how they are realised into texts or experiences through the activity of playing, I have to study that process from the viewpoint of a player. To study logs from the game as texts afterwards is like studying a description of an event rather than being present at the event." [23]

Last but not least I would like to argue that Jesper Juul is a great example of a hybrid game researcher/

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[6] Murray also calls forth a number of game designers who are interested in doing game research: "Eric Zimmerman is following in the tradition of Chris Crawford and Brenda Laurel with his forthcoming book on game design. Others – like Hal Barwood, Noah Falstein, Doug Church, Warren Spector, Will Wright – have worked to establish a focused design discussion through conference presentations, articles, and interviews." [24]

[7] On his website Frasca states which games are on his console at the moment. www.ludology.org

[8] 14-15 July 2003. For the program visit: http://www.power-up.org.uk/

[9] Squire works as a research manager at MIT on the Microsoft-MIT funded Games-to-Teach Project.

game designer/ gamer who at the same time constructs and deconstructs the boundaries in game studies. Next to being a game researcher, he also designs games, one of which only can be found his list of computer game writings on his website. Juul calls this game a game about games:

> "(A world's first!) Game about theorising about computer games [...]"
> http://www.jesperjuul.dk/text/index.html
> He states: "As I see it, we need to acknowledge games as something unique. They may in some situations and in certain ways relate to well-described pastimes and forms of expression, but it is time to take them seriously on their own."
> http://www.jesperjuul.dk/gameliberation/

In this game called 'liberation', you are a game theorist (in a spaceship) and your object is to defend games from the imperialism of a number of theories. These theories will attack you in four different levels: narratology, psychology, film theory and pathology. Within this game Juul is strongly involving the player in the process of constructing boundaries between game studies and other disciplines. The player of the game has to defend oneself (game studies) by 'killing' the other theories and disciplines. At the same time the game can be seen as ironic and deconstructing because it is playing around with the debates between game studies and other disciplines. Juul is an example of a kind of hybrid between researcher, designer and gamer: he uses game theory to design, he uses design to develop his academic ideas and he uses play as way to explain and express his ideas.

In my opinion ideas about construction or crossing over (hybridization) of game researchers, game designers and gamers are about the involvement of the researcher in his/her own research. By constructing boundaries between these various positions game researchers decide who can produce academic knowledge on computer games and who cannot.

The in between-ness of hybrids

A similar discussion was raised about within fan culture studies and concerned the hybrid positions of scholar/fan and fan/scholar. It questions the perspective of the objective academic subject, which presupposes that researchers produce objective knowledge. Fan culture researcher Matt Hills calls this transcendental position the *imagined subjectivity* of researchers. He claims researchers may want to have this subject position but that they can never take it in reality. In a similar vein game researchers may strive for such imagined subjectivity whilst creating a strong demarcation between themselves as researchers and the game designer and gamer as 'imagined other'. In the same way the game academic can be seen as the imagined other from the perspective of gamers and game designers. According to Hills the concept of imagined subjectivity helps to construct various boundaries:

> "Such mutual marginalization would suggest that fandom and academia are co-produced as exclusive social and cultural positions. The categorical splitting of fan/ academic here is not simply a philosophical or theoretical error, but it is also produced through the practical logics of self-identified 'fans' and 'academics'." [17]

By analyzing the hybridization between academics and fans, Hills concludes that the imagined subjectivity of academics tends to win from the fan subjectivity:

> "First, academic accounts consistently produce a version of fandom which seems indistinguishable from the interpretive, cognitive and rational power of the 'good' academic (Jenkins 1992;

McLaughlin 1996). Second, in a petulant revolt aimed at building 'symbolic capital' (i.e. securing a reputation for one's self), academic accounts throw their lot -in with the imagined subjectivity of fandom and seek 'love', 'excessive positioning' (Burt 1998; see also Hills 1999a for an example of this). Or, third, academic accounts toy with the idea of magically abolishing the difference between 'fan' and 'academic' knowledges before finally retreating to the superiority of an academic position (Hunter 2000; Hartley 1996). And finally, recent academic accounts have started, deliberately and purposefully, to confuse fan and academic subjectivities (e.g. Doty, 2000; Brooker 2000; Green, Jenkins and Jenkins 1998). [17]

The same issues can be found within game research. An example would be when a game researcher uses an analysis a gamer made of him/ herself as research material, or when academics claim a gamer-identity either by magically abolishing the difference or by deliberately but uncritically mixing both identities.

Hills concludes that there are not only scholar/ fans but also fan/scholars, for instance students who are fans but also analyze and publish work on their fandom:

> "The scholar-fan and the fan-scholar are necessarily liminal in their identities. That is, they exist between and transgress the regulative norms of academic and fan imagined subjectivities. This between-ness is what underpins the defensiveness and anxiety of both groups, since both are marginalized within their respective primary communities." [17]

Therefore Hills suggests:

> "Any and all attempts at hybridings and combining fan and academic identities/ subjectivities must

therefore remain sensitive to those institutional contexts which disqualify certain ways of speaking and certain ways of presenting the self." [17]

In my opinion by defining the hybrids scholar/fan and fan/scholar as in-between Hills is also constructing boundaries. He locks these hybrids between the existing categories of academics and fans. I would like to claim that there are more fruitful ways of thinking about the crossing of boundaries and the concept of hybridization. Therefore I would like to take a closer look at STS and especially Thomas Gieryn's ideas of boundary-work, Bruno Latour's conception of the actor-network theory (ANT) and the concept of situated knowledge as coined by Donna Haraway.

SCIENCE AND TECHNOLOGY STUDIES

To get more sense of the context in which Thomas Gieryn, Bruno Latour and Donna Haraway developed their ideas, I will shortly introduce the three main theoretical strands in STS as described by David Hess in his introduction to STS [16]: the philosophy of science, the sociology of science and the sociology of scientific knowledge [16]. Within the philosophy of science I will discuss the ideas of Karl Popper, Thomas Kuhn and feminist epistemologies by Sandra Harding [15] and Donna Haraway [13, 14]. Within the sociology of science I will discuss Thomas Gieryn's theory of boundary-work and within the sociology of scientific knowledge I will discuss the ideas of Bruno Latour.[10]

The philosophy of science

Hess introduces Karl Popper and Thomas Kuhn as two of the most famous philosophical essentialist interpreters of science. Their theories on the demarcation problem became a way to explain and defend the superiority of science in producing truthful claims about the external world. Popper invented the idea of falsification instead of verification to justify theories

or generalizations. The ideas of Thomas Kuhn are based on the concept of paradigm. In his opinion paradigmatic consensus can be seen as a demarcation principle. Constructivist studies of science as knowledge and practice raise questions about the ability to separate science from non-science as proposed by Popper and Kuhn. Constructivists subscribe to the idea that scientists do not discover the world but impose a structure on it or in some sense construct a world and demarcation within it. [16] Therefore they do not ask how true knowledge claims about the external world are possible. Instead they research how scientific knowledge is being made or constructed.

Feminist studies of science started out by asking: what is the place of women and gender in science? It analyzes how culturally rooted definitions of science have affected women and gender differences and how boundaries of scientific methodologies can be rethought in a less gender-biased way. Hess calls feminist philosophers like Sandra Harding and Donna Haraway moderate constructivists:

> "[...] they hold that in order to be able "to detect the values and interests that structure scientific institutions, practices and conceptual schemes," and therefore to move to better but nevertheless ultimately fallible and culture-bound accounts, one good strategy is to begin research with the

perspectives of marginalized groups." [16]
Harding developed the concepts of 'standpoint theory' and 'strong objectivity'. In standpoint theory Harding claims that knowledge is always constructed by the standpoint the researcher and that standpoints from the margins produce more critical knowledge than center standpoints. Therefore she proposes a form of strong objectivity which involves problematizing not only the 'object of knowledge' (the issue or people to be investigated) but also the 'subject of knowledge' (the position of researchers themselves) [15] Furthermore Harding argues that scientific questions have to be formulated from the marginal perspective. The main problem of standpoint theory is that it can become essentialist when social identity is so closely connected to knowledge production. In effect this means that a researcher who has a center position (white male researcher) can never produce knowledge from a marginal position such as a black woman.

In a reaction to Hardings standpoint theory Haraway introduced the concept of situated knowledge:

> "[...] which analyzes theories, theorists, and sciences by giving them a social address or location. "unmarked knowledges" are those characterized by a presumption of objectivity that usually obfuscates their social embeddedness in white, male or other dominant cultural perspectives." [16]

10 I could be argued if Haraway's ideas belong to the category of the philosophy of science. This discussion is out of the scope of this article. I will use the categorization as proposed by Hess [16].

The idea of situated knowledge argues against the traditional idea of the researcher as transcendental subject. Rather situated knowledge is a bottom up concept, because it makes visible the 'real' constructed situation the researcher is in. For Haraway situatedness is a way to

> "[...] get at the multiple modes of embedding that are about both place and space in the manner which geographers draw that distinction" [12]

When introducing her concept of situated knowledge Haraway plays with the western metaphor of vision. She claims that situated knowledge doesn't mean *reflection* of a passive object-world but *diffraction* of non-innocent relations between subject and object. Diffraction and reflection are both an optical phenomena, but whereas reflection always mirrors the end result, diffraction captures a dynamic process:

> "[...] when light passes through slits, the light rays that pass through are broken up. And if you have a screen at the on end to register what happens, what you get is a record of the passage of light rays onto the screen. This "record" shows the history of their passage through the slits. So what you get is not a reflection; it's the record of a passage." [12]

At the same time Haraway aims to record historical processes as well as the present situation. Therefore situated knowledge shows how knowledge is actually produced as well as which knowledge is produced. Haraway's argues for the pleasure in confusion of boundaries. She claims a scientist can never tell the whole story but can only create a portal or entry point; academic texts are open-ended instead of closed texts. Furthermore Haraway's claims vision is always situated and embodied, but that this situatedness and embodiedness is not fixed. Between them

partial connections can be made, which she describes using the metaphor of the game cat's cradle:

> "Critical theory should rather be like an open-ended collective game with no winners or losers, in which each player constructs his/her own patterns and knots, to pass them onto others, who may transform, unravel or embroider them further." [14]

For the researcher as subject this means: "The knowing self is partial in all it's guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly." [14]

As she proposes hybridity as an important critical approach, her own texts are such hybrid products as well. Her texts are not only inter- or transdisciplinary, she also mixes established academic and personal modes of telling her story. She rejects the academic 'style of no style' in which the author remains invisible as if he/she was a transcendental subject instead of someone who produces situated knowledge. Therefore Haraway's concept is not only a way of looking at the world (from the constructed empirical situation) but also a complex productive style of writing in which boundaries get messed up.

The sociology of science
The sociology of science more or less started when the American sociologist Robert Merton made his description of what came to be known as the four 'Mertonian norms' (universalism, communism, disinterestedness and organized skepticism). He saw science as a self-regulating social system with a complex ethos of norms and values. Hess argues that the institutional autonomy of science is by no means guaranteed, and scientists have to actively defend this position. [16] He describes how Thomas Gieryn,

a student of Merton, "[...] developed the idea of 'boundary-work' to describe the ways in which scientists establish and police their boundaries and thereby defend their autonomy." [16]

Gieryn introduced four types of boundary-work: 1) monopolization (when scientists claim a unique cultural authority for their theory or method), 2) expansion (when insiders push out the frontiers of their cultural authority into spaces claimed by others), 3) expulsion (when insiders expel not real members from their midst) and 4) protection (when scientists attempt to prevent outside invasion in their resources and privileges. [16] Gieryn makes an important separation between essentialists who *do* boundary-work and constructivists who *watch* it get done. To watch boundary-work being done is to focus on

> "the attribution of selected characteristics to the institution of science (i.e., to its practitioners, methods, stock of knowledge, values and work organization) for purposes of constructing a social boundary that distinguishes some intellectual activity as non-science." [10]

> This means that according to Gieryn: "Science is a kind of spatial "marker" for cognitive authority, empty *until* its insides get filled and its borders drawn amidst context-bound negotiations over who and what is "scientific". [10]

He adds that this means that the unique features of science, the qualities that distinguish it from other knowledge-producing activities, are to be found not in scientific practices and texts but in their representations. This does not mean that once boundary-work is being done we have an everlasting map of a specific scientific practice. Boundary-work is a repeating process because

> "[...] people have many reasons to open up the

black box of an "established" cartographic representation of science – to seize another's cognitive authority, restrict it, protect it, expand it, or enforce it." [10]

The sociology of scientific knowledge

The sociology of scientific knowledge focuses on the content of science. According to Hess content refers to:

> "[...] theories, methods, design choices, and other technical aspects of science and technology." [16]

This idea contrasts with more discursive and institutional elements that are being studied by the philosophy and sociology of science. Latour describes this as the constructivist process of 'opening the black box'. Latour and Callon coined the actor-network theory (ANT), which states that science and technology is constructed along with the social relations and structures in the wider society. [16]

> "As formulated in the actor-network theory, a principle of extended symmetry is the basis for treating social agents, objects, and texts as "entitities" (actants –MC) on the same level in a heterogeneous, sociotechnical network." [16]

This idea overlaps with Haraways idea of hybrids and the cat's cradle. Unfortunately the ANT is not very good at explaining why some actors are excluded from the game and why the playing field is not level. [16] Hess's attempt to draw the above theories together in his concept of critical and cultural studies of science and technology is therefore very interesting, especially when watching boundary-work being done in game studies. Hess argues that social studies of scientific knowledge need to move to a direction that grants a more prominent role to power and culture: power as it is embedded in historical

structures of class, race, gender and so forth, and culture as a contested system of meanings for actors. [16]

If we want to watch boundaries as they are being constructed in game studies and if we want to take the various hybrid positions as methodological points of departure, I would argue that we also have to bring together the concepts of Haraway, Gieryn and Latour. Latour's and Callons ANT helps us to understand the various relations in the knowledge network of actants. Haraway's concept of situated knowledge indeed helps to explain why some actors are excluded from the game and why the playing field is not level. She claims that a researcher can never be a transcendental subject 'out there over-looking the world'. For Haraway the knowing subject is always situated and embodied *inside* culture – inside the actor-network. Gieryn's concept of bound-ary-work helps to watch how the various boundaries in the knowledge network are being constructed. Furthermore Haraway's ideas help us to realize that constructed boundaries between the different posi-tions: science/non-science, game studies/ other dis-ciplines, game researcher/ gamer/ game designer are never fixed. The borders are shifting, while vari-ous hybrids come in to being.

CONCLUSIONS

My goal is constructing a theoretical framework for my research from which I can analyze and decon-struct how game researchers are *doing* game research. This means I take a look at myself as well: I am also part of this process. Since game studies is establishing itself as autonomous discipline, I want to be aware of the fact that in doing so we construct various boundaries which are not neutral or static. Game researchers and our discussions are actants and knowledges that are situated within cultural, academic, political and economical power structures.

In this paper I have drawn a picture of the various ways in which boundaries are being constructed in game studies and the workings of 'othering'. Hereby I largely focused on two different but intertwined boundaries that are currently being constructed in game studies. The first kind of boundary-work I dis-cerned is the construction of the boundaries between game studies and other academic disciplines and methodologies. The second kind of boundary-work is the construction of the boundaries between game researchers, game designers and their industry and gamers. We construct these boundaries on the dif-ferent levels of content, researcher and institution.

When looking at the construction of the first boundary through the perspective of Latour's and Callon's ANT we have to see the empirical reality of everyone and everything involved in game studies. From the ANT perspective one can distinguish actors and actants active in the construction of game studies: academics from various disciplines, game designers, gamers, consoles, universities, the DiGRA, Gamestudies journal etcetera. When taking a look trough the perspective of Haraway's concept of situated knowledge, all these researchers are part of game studies, but ludologists construct a boundary between narratology and ludology for

instance because they want to construct another boundary namely that between game studies and other disciplines. I would state that from Haraway's perspective ludology and narratology are merely other perspectives (situated knowledges) on the same object whilst not being acknowledged as such. Each of these perspectives produces a different kind of knowledge, which means that the 'clash between game and narrative'[11] is merely a political clash to construct a new academic discipline.

Secondly I have proposed to take a closer look at the construction of a second boundary, namely the lines that are being drawn between game researchers, game designers and gamers, through the complementary perspectives of Latour and Haraway. This also involves looking at the empirical reality of game research and noting that game researchers, game designers and gamers are all actors in the same network of game culture and game research; which means that every researcher is always involved in his/her own object of research. When taking a close look to the situatedness of game researchers we will see that most of them are hybrids partly involved in academic practices and other sides of game culture. Various arguments explain why such a hybrid position is interesting, necessary and shouldn't be neglected. Henry Giroux claims that cultural studies researcher should participate in cultural production themselves:

"Doing cultural studies means being active as a cultural producer and doing your own theorizing about the culture around you." [11]

Nick Couldry claims in *Inside culture*, a study on the methodology of cultural studies:

"How we speak about others and how we speak personally must be consistent with each other, if our theory is to be fully accountable. We cannot oversimplify the cultural experiences of others, without caricaturing our own." [6]

"Arguing for the importance of the 'personal' perspective, then, does not mean affirming a simple universal subject; it is rather a question of insisting that particular selves – with al their uncertainties and contradictions – should be recognized, listened to and accounted for in the types of claim we make about cultures and cultural experience." [6]

I my opinion the personal position of the researcher is fascinating and important and should be made visible in the conducted research. It is interesting to see how your own knowledge is situated across borders that you are simultaneously constructing. This helps to see how boundaries are being constructed and makes you aware of the power structures that are being involved when constructing an autonomous discipline: who decides how and by who games are best being studied and can the discipline legiti-

11 The title of Juul's master thesis (2000).

mately officially extent itself over the borders of the University? The boundary-work I have watched in this paper were mere examples of boundary constructions in game studies. As for myself my situatedness and hybridity lies partly in the facts that as a researcher working on Fantasy Role Playing Games and the construction of space and identity, I'm living on the edge between different worlds that are crucial for conducting my research: the academia, the computer games scene and the fantasy scene. While my research continues I'll probably stay fascinated by the ways in which the various boundaries are being constructed.

The game researcher, as well as any other academic, is always part of the reality he or she studies. Therefore it is important to think from this empirical reality instead of from the essentialist constructions of disciplines or academic identities. In my opinion it is obvious that game studies is more than a new discipline in the traditional university structure. As Aarseth already noted game studies is made up from Humanists, Computer Scientists, Visual Artist/ Designers, Social Scientists, Psychologists, the Public, the University Board of Directors, the Funding organizations, department colleagues, Politicians, computer lab admins, undergraduates and industry designers [4]. I would like to add to this equation the various hybrids that exist between or beyond the above. Especially I would like to add the neglected hybrids between game researchers, game designers and gamers. The ANT and Haraway's concept of situated knowledge help us to think methodologically from these hybrids instead of making them invisible or, worse, abandoning this interesting breed of researchers.

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34. COMPUTER GAMES AND
THE COMPLEXITY OF EXPERIENCE

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ABSTRACT

Computer games are usually studied on the basis of a sensory-motor model related to classical cinema, a model which is almost exclusively oriented towards the actuality and causality of action. This assumption of an action-driven, Aristotelean dramaturgy does not only concern the possible world which is represented in the game, but also the playing of the game itself. We argue that such an approach does not sufficiently recognize the complexity of the experience represented in the game and gone through by the game player. In order to determine the complexity of experience, two other —this time modern-cinema related — models are used, based on Peirce's phenomenological categories of firstness, secondness and thirdness, and on Deleuze's cinematographical categories of the movement-image, the time-image, and the thought-image. According to these triadic theories the actuality and causality of action is broken through by the predominance of the intensity of experience and/or the reflexivity of thought. We develop a conceptual framework which provides us the tools in order to understand the three dimensions of the experience of the game and of the playing of the game in their triadic relations.

KEYWORDS

Firstness, secondness and thirdness; lyric, epic and dramatic; time-image, movement-image and thought-image; deconstruction; device paradigm

" ... um es endlich einmal herauszusagen, der Mensch spielt nur, wo er in voller Bedeutung des Wortes Mensch ist, und er ist nur da ganz Mensch, wo er spielt"
(Friedrich Schiller, Über die ästhetische Erziehung des Menschen, 1795)

INTRODUCTION

Computer games are usually studied on the basis of a sensory-motor model related to classical cinema, a model which is almost exclusively oriented towards the actuality and causality of action. This orientation presupposes an action-driven, Aristotelean dramaturgy not only with respect to the possible world that is represented in the game, but also to the playing of the game itself and to its

effects in everyday life. Such an orientation is characteristic for the narrative, the ludological and the effect research approach and does not do justice to the complexity of the experience as this is represented in the game and gone through by the player of the game.

The aim of our contribution is twofold: on the one side to argue that the complexity of experience is also (more or less) present in those games that have reductively been seen as only action games, on the other side to advocate the design and development of more complex—that is to say not only action-driven—computer games. In order to determine the complexity of the experience, we will introduce two other models related to modern cinema, in which the dominance of the actuality and causality of action gives way to the dominance of the intensity of experience and/or the reflexivity of thought. We develop a set of conceptual tools with which the three dimensions of the experience can be clarified in their mutual relations.

Firstly, we present a phenomenology of experience in reference to the universal or phenomenological categories of firstness, secondness and thirdness, as these are distinguished by the American philosopher and scientist Charles Sanders Peirce (1839-1914). (1) Secondly, we apply these categories to computer games in order to specify the different positions that can be taken up by the 'player' with respect to the possible world that is represented in the game, namely the lyric, the dramatic and the epic position. (2) Thirdly, we refer, by means of the triadic image theory of the French philosopher Gilles Deleuze (1925-1995), to the historical and political-ideological implications of these positions. (3) We finish with some concluding reflections.

1. The triad of feeling, action and reflection
We may distinguish human experience in three dimensions: the emotional dimension of feeling, the

volitional dimension of action and the cognitive dimension of reflection. These three basic dimensions of the human experience correspond with the "universal categories" which Peirce distinguishes in his phenomenological approach of reality and the human mind: firstness, secondness and thirdness. As modes of orientation, they determine the way in which the world is opened up for us in our experience. Every orientation is led by a specific interest and has, in both theoretical and practical respects, a normative meaning.

Firstness is the category of the immediate presentness. Experiences of firstness are qualities of feeling. It is, so to say, the first experience of the world without any distinction or a consciousness of one's own existence. The world is experienced as "first, present, immediate, fresh, new, initiative, original, spontaneous, free, vivid, conscious and evanescent" (EP 1.248 [12.13]), in short, as something which has no cause outside itself.

As a mode of experience, secondness is the hard, tangible reality, which we run into—are confronted with—and which we cannot think away; it is the reality whose existence we as subjects have to recognize as an object outside ourselves, as something which offers resistance and which we have to react on by acting. It is the practice material of the will and the subject matter to experience (EP 1.253-254 [12.13]).

Thirdness is, in its proper form, the objectified thought, in which we wonder how we relate ourselves to the world. Thirdness is reflection, without which experience is impossible. Thirdness manifests itself in this consciousness and underlies every orientation: Being with the world is at the same time being with yourself.

In the categories of firstness, secondness and thirdness we can easily recognize the three dimensions of

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experience as distinguished by the German philosopher Immanuel Kant in, respectively, feeling ("Empfindung" or "Gefühl"), imagination ("Vorstellung") and reason ("Verstand"). Firstness corresponds with the emotional, secondness with the volitional and thirdness with the cognitive dimension of our experience.

We assume that playing games comes about in a "free play" of feeling, action and reflection. In this free play, the player is appealed to in his imagination ("Einbildungskraft", Kant: 1986 [1790] [6]), which is also a creative power in aesthetic experience and expression. As far as a computer game offers the player the opportunity to play the game in a free play of imagination, which implies that none of the three modes of experience is suppressed by the others or instrumentalized for therapeutic (cf. Turkle, 1996 [17]) and educational (cf. Prensky, 2001 [14]), economic (advertisement and marketing) and political (propaganda) purposes, it belongs to the domain of art. The notion of "free play" demands also an "open dramaturgy" which leaves space for escape routes, for going underground and dismantling the system of consumership—in short, where the play leaves space for anarchy.

The free play of imagination positions the player not only in (relation to) the possible world which is represented in the games, but also emphatically to the world of his own experience, in terms of both the intensity and reflexivity of his experience. A computer game offers in principle the opportunity to play with experiences and to risk experiences. Usually the interactivity of computer games is understood as the player's capacity to play a part in the represented world or to intervene in an other way into the narrative, but rarely as a tool to express his own subjectivity and to intensify his experience or to reflect on the represented world and to examine the rules according to which the game is constructed.

2. The lyric, dramatic and epic position

The intensity of experience, the actuality and causality of action and the reflexivity of thought correspond with the different positions which can be taken up by the 'player' with respect to the possible world which is represented in the game and/or constituted in playing the game. We characterize these positions as subject positions, as these are inscribed in the text, with the tripartition of the lyric, the dramatic and the epic (Kattenbelt, 1994 [7]).

The lyric position primarily concerns an emotional orientation towards and an affective perception of the world; the dramatic position primarily concerns an action-motivated orientation towards and a senso-motorical perception of the world; and the epic position primarily concerns a reflective orientation towards and a contemplative perception of the world. The lyric and the epic position have in common that the player is liberated from the necessity of action.

Why is in our media culture the dramatic mode of representation so dominant? In order to answer this question we have to make a detour via the film. The dominant position of the dramatic mode in cinema can be considered as an effective strategy to define the audience as a mass audience. A medium is not a mass medium because of its massive accessibility, but because it definies its audience as a mass. In the still-dominant mode of the classical film, the spectator is an anonymous, invisible wittness, who gains access to the possible world which is represented in the film by identification with the hero. The aim is transparency, which means that the medium wipes out its own grammar (Benjamin, 1936 [1]), its own traces (Metz, 1977 [10]). This striving for transparancy is often considered as a natural tendency (cf. Murray, 1997: 26: "Eventually all successful storytelling technologies become 'transparant': we lose con-

sciousness of the medium and see neither print nor film, but only the power of the story itself." [11]) or need (cf. Bolter and Grusin, 1999: 24: "The transparent interface is one more manifestation of the need to deny the mediated character of digital technology altogether." [2]) of all media. We understand the dominance of the dramatic mode of representation as an example of the "device paradigm" (Borgmann, 1984 [3]; Kattenbelt, 2002 [8]). According to this paradigm, modern technology functions to a large extent as a concealed machinery which delivers on demand all kinds of products, services and experiences. This paradigm is a necessary condition for an optimal functioning of the consumer society, indeed, but it obstructs our view on the social conditions under which the production processes take place (cf. Klein, 1999 [9]).

Many computer games draw upon this classical mode, because the playing of the game is primarily defined in a functional relation to the action of the hero. The individual player is not himself, but all the players are that one specific hero (for example Solid Snake in *Metal Gear Solid*). As in cinema, this tendency in computer games can be considered as erasing the heterogenity of a mass audience. This erasure does not only injustice to the diversity of the audience, but also to what is for computer games the characteristic moment of deconstruction, in which the device paradigm is broken through and the political and ideological implications are revealed (Raessens, 2004 [16])

3. The movement-image, time-image and thought-image

The actuality and causality of action, the intensity of experiece and the reflexivity of thought are to link with, or, show a similar structure to the movement-image, the time-image and the thought-image. The richness of these two approaches is that, together, they combine a theory of phenomenology of experience (i.e., the Peircean approach) and, more concrete, different strategies of representation (i.e., the Deleuzian approach). We thus combine in a systematic way different dimensions of the experience with different dimensions of the expression of experience. This combination makes our approach something of a phenomenological one, in that we take as our point of departure the inseparability of experience and expression.

Both theories want to develop an alternative to the Aristotelean dramaturgy. The Deleuzean image theory adds another dimension, namely that these alternative dramaturgic strategies are being developed in accord with modern rather than classical models of cinema (Raessens, 2001 [15]). We think that Deleuze's typology of images, even though developed for the cinema, can be used for the domain of computer games. According to Deleuze, the classic is to be found there where there is an automatic connection between a perception and an action, whereas the modern breaks this connection. This opens the possibility for the perception to stand on its own (the perception-image), or to connect with different forms of the movement-image, as in the affection-image or the impulse-image (cf. Deleuze, 1983 [4]). It is also possible that, freed from the necessity for action, the perception connects with all sorts of time-images – the dream-image, the memory-image, etc. – and thought-images (cf. Deleuze, 1985 [5]). It is the goal of Deleuze's work to show in a systematic way that there are all kinds of strategies to break through the dominance of the classical action image, and, from a historical perspective, that these strategies take different forms over time. The political impact, however, stays the same: to develop strategies ensuring that human experience is not reduced to cliché-like action-perspectives and to give space to new forms of subjectification in which there is room for intensity and reflexivity. It is our goal to explore whether these

alternatives already exist, and if not, to advocate the development of those, more complex games.

How the lyric (time-image), dramatic (action-image) and epic position (thought-image) could be inscribed in the text, will be illustrated with an analysis of the computer game *Metal Gear Solid* (Hideo Kojima, 1999). In this game the secret agent Solid Snake is ordered to dismantle a terroristic organization. Although in this game the dramatic position is dominant, indeed, we would like to argue that the game has lyric and epic tendencies as well. The dramatic position in *Metal Gear Solid* (MGS) provides the player with a third person view of situations in which Solid Snake is taking on actions, which are controlled by the player. The possible world in the game is represented as is manifest in the third person view which offers the player action-contexts in which Solid Snake is an agent. The first person views – the player looking through the eyes of Solid Snake – which the game also provides, might, because of their subjectification, be regarded as lyric tendencies, but these tendencies are overruled by the the dramatic mode, in that their emotional impact is not considered in its own value. The same goes for the epic tendencies in MGS, although there are moments in the game that the player is forced to look beyond the limits of the world represented in the game in order to continue the action taking place in this world.

Conclusion

Usually the intensity of experience and the reflexivity of thought are subordinated to the actuality and causality of action. In this sense many computer games are more about reflexes than about reflection. Only the breaking through of the dominance of action leaves space for other domains of experience. This breaking through should be regarded as a challenge for game designers to develop games in which the experience of playing the game becomes more a part of the game itself. So far, most game designers have restricted themselves to remediating the formats of the classical cinema. We are curious to know what will happen if they have the creative daring to develop games which do justice to the complexity of experience.

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