Play on Display

The exhibition of videogames in the museum.

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Abstract

This dissertation examines the exhibition of videogames in major cultural institutions. The focus is on the curatorial narratives presented by differing exhibitions, specifically the context in which the works are 'framed'. Of particular interest is the extent to which context supports the interpretation of videogames as cultural artefacts. It will consider how differing approaches to display can construct videogames as activities and/or as artefacts. This analysis provides an understanding of the narratives that are currently being generated from the display of games in these institutional environments. Through their displays, museums and galleries organise collections into narratives, into recognisable histories and into doctrines, mediating the relationship between visitor and objects. These narratives have historically been embraced as culturally legitimising and authenticating. What can it mean to exhibit videogames in the museum? What can the museum learn from exhibiting videogames?

This is to certify that

i. this thesis contains no material which has been accepted for the award to the candidate of any other degree or diploma, except where due reference is made in the text of the examinable outcome;

ii. to the best of my knowledge contains no material previously published or written by another person except where due reference is made in the text of the examinable outcome.

Helen Stuckey, May 2010

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1. Introduction

1.1 Motivation

> The art of the future will be done by the engineers of experience in their workshops of world-invention and world-creation. (Stocker 2001, p. 15)

The burden of history, the weight of authority and frequently a Kafakesque sense of bureaucracy ensure that museums in general are not the most agile of institutions. Cultural change in these institutions can feel like the slow turning of a container ship.[1] Yet they do change. Digital culture, participatory online culture and the rise of vernacular knowledge are bringing about a series of techno-social changes that are at odds with the museums traditional object-based vision and singular sense of authority. Whilst videogames entered the museum as the latest screen culture artefact, they may in fact be a Trojan Horse. Videogames bring with them complex new regimes from the age of social networking, fan and blog cultures. The nature of software as mutable media, malleable in the hands on the new active audience challenges the object focus of the traditional museum.

1.2 Scope of Study and Methodology

This dissertation asks how knowledge about videogames can be presented in the gallery. It proposes that the exhibition of videogames is more productively explored if they are situated and understood as cultural objects and examined in terms of how they reflect larger cultural patterns. The museum provides a context and authorisation to explore videogames, validating them as cultural artefacts with aesthetic and socio-cultural

[1] This metaphor of the traditional archive as the large slow ship and the fan community as the agile tug boats has been unwittingly stolen form Henry Lowood. I offer my apologies.

significance. The relationship of videogames to the museum also presents fertile opportunities for exploring the re-mediation of the museum.

Case studies are undertaken of four influential exhibitions of videogames. These readings examine the curatorial narratives presented by these exhibitions, and the institutional context in which they are presented. The research examines how this context supports the interpretation of videogames as cultural artefacts and reflects upon how differing approaches to display, can construct videogames as activities and/or as artefacts. It also looks at institutional agendas for the exhibition of videogames and how these influence exhibition narrative.

Chapter Two introduces key issues that underpin the discussion; an understanding of the culture of the museum in the twenty-first century; videogames relationship to digital art; and the nature of videogames with particular reflection on their relationship to technology and the wealth of meaning created by gamer communities. The chapter offers a brief introduction to the idea of the museum and its relationship to videogames as both digital media and popular culture. To help contextualise videogames in the gallery, this chapter also investigates videogames in the context of the exhibition of digital art, highlighting their shared challenges and exhibition frameworks. It then introduces two dominant themes for investigating videogames - their symbiotic relationship with rapidly evolving computer technologies and their relationship to an active community of users. Games theorist James Newman argues that the act of playing a videogame cannot be adequately considered or appreciated without a deep understanding of the ways in which it is enmeshed within and informed by its cultures and communities, all of whom contribute to the collective knowledge of videogame culture. (Newman 2008, p. 14)

Chapter Three examines two seminal exhibitions of videogames; *Hot Circuits* (1989) and *Cracking the Maze* (1999). This discussion explores the

institutional context of the museum as the 'proper' site for curation and exhibition, contrasting it to the development of the Internet as a new site for exhibition. Where *Hot Circuits* addressed itself to apotheosising the signature objects of videogames' short history, *Cracking the Maze* was about identifying other sites for display and production. A decade apart these exhibitions capture key historic moments in the changing relationship to computer technology. Situated at the end of the arcade era *Hot Circuits* speaks not only of the arrival of videogames but also to the burgeoning relationship with computer technology. *Cracking the Maze* focuses on the gamer as producer and the artist as gamer. It explores the potential of digital media's mutability providing previously unprecedented opportunities for agency, manipulation and remediation, as well as contemplates games' intimate relationship with the Internet.

A second pair of case studies is then undertaken that examine two major institutional exhibitions: the touring exhibition *Game On* (2002 - ongoing) which originated at the Barbican Centre, London and *Gameworld* (2007) the inaugural exhibition for LABoral, a new arts and industry institution in Gijon, Spain. *Game On* is considered in terms of the context of the grand narrative of progress, a modernist agenda that situates itself in relation to a past preserved and a future projected. In contrast, *Gameworld* offers a more fragmented vision. Where *Game On* strived to present order and progression *Gameworld*'s heterotopic narratives provoke questions on the very nature of videogames and our relationships with them. This comparative analysis looks at how these differing narrative approaches relate to their institutional context, how the exhibitions' contrasting narratives frame their conceptual themes and what they reveal about the act of display.

Whereas the earlier chapters investigated a group of influential exhibitions of videogames and examined their key narratives, Chapter Five examines some critical understandings of videogames drawn from

academic game studies. It looks at methodologies for examining videogames and asks how knowledge about videogames can be presented in the gallery. Questions examined include: How much should the issue of player skill be taken into consideration when selecting work for display? How should a work's cultural reception be profiled in relation to the designed object? These questions are discussed in relation to selected examples of curatorial practice.

Chapter Six addresses how the museum can learn and benefit and from the creativity, productivity and sociability of gamers who, through their sharing of knowledge and information online, have created rich resources. It examines how the rise of vernacular knowledge challenges the museum's historic status as an apparatus for expertise. Exploring how gamer communities have actively worked to document game history and how they are also responsible for developing ways to archive the games' software itself. It then asks how the museum might look at the participatory culture of gamer communities to envisage ways that it could transform its practices for collecting, sharing and interpreting information.

1.3 Relationship to Material

This dissertation is informed by my role as the curator of the Games Lab at the Australian Centre for the Moving Image (ACMI). The Games Lab opened at ACMI in March 2005 and closed in late 2008.[2] At ACMI, I initiated and developed the Games Lab, recognised as the first dedicated venue for videogames in a cultural institution.[3] Despite working with fixed assets the space was designed to be flexible and responsive to trends in videogame culture. Its sequence of exhibitions featured a blend of works

[2] The Games Lab was closed for the ACMI ground floor renovation. A version of Games Lab features in the new *Screenworlds* exhibition. Rather than a dynamic set of exhibitions and events it offers a permanent display.

[3] The American Museum of the Moving Image whilst having no dedicated space for videogames has been consistently engaged in the exhibiting of videogames since 1989.

from commercial games and independent games, to research into visualisation and game design. It also exhibited art works, mods, hacks, machinima and student work. Selected exhibitions included the commissioned game art work *acmipark (2003 – 2006)* a virtual world extension of ACMI that explored gamespace as public space and offered players an opportunity to interact in a soundpark that transformed the landscape of Federation Square and ACMI into to giant collaborative instrument. *State of Play* (2005) presented a selection of videogames investigating gameplay and political ideology, whilst *Sonic the Hedgehog: Icon of our Times* (2005) explored the evolution and legacy of Sega's speedy blue hedgehog. The exhibition *Playing the Movies* (2006) invited visitors to make their own movies using the machinima engine in Lionhead's *The Movies*, where pre-established game saves placed new players into fully equipped studios. The exhibition also featured a curated program of machinima (films made using game engine technology). The exhibition *Point and Tilt* (2005) featured a series of experimental games using mobile phone cameras and augmented reality technologies were created in collaboration with ACID (QUT) and the HITLab (NZ). An annual exhibition of the *Best of the Independent Games Festival* showcased the latest independent games from around the world.

Games Lab was designed to explore videogames as cultural artefacts. The space was conceived as both a site for exhibition but also a site for workshops and experimentation. ACMI Education used the space regularly for game-making and machinima workshops. The space was also made available for workshops for *Freeplay: The Independent Games Festival*. It was transformed into the public headquarters for the location-based game *Scoot* and acted as the portal though which players accessed the game's virtual world. In addition Games Lab was utilised as a site for conducting ARC research on videogames and education. This diversity of practice fulfilled ambitions that a space for videogames in the museum

should not be a traditional gallery space but a more dynamic space of presentation, production, experimentation and research - reflecting qualities of the medium itself.

My personal curatorial practise also extends to some of the exhibitions discussed in this dissertation. I worked as a curatorial advisor on *Gameworld*, for the LABoral Centre for Art and Creative Industries in Gijon, proposing works for inclusion and contributing both didactic and catalogue text to the exhibition. My experience with *Game On* was the curation of additional material for the ACMI exhibition of 2008 and the writing of an introductory text for the reprint of the catalogue.

1.4 Terminology

In this text I use the term 'museum' in a generic sense to define exhibiting institutions and the term gallery to define the spaces of exhibition. I use the term 'gamer' rather than player to speak about specialised audiences for videogames. Gamer more effectively invokes the broader cultural production that surrounds videogames. Whilst the player merely plays, the gamer is involved in a range on meaningful non-gameplay activities such as game blogs and forums, the creation of walkthroughs, the development of game mods or the creation of game fan art or game-inspired music.

2. Cultures of Display

> This is a medium that anyone who wants to understand where our culture is at, has to look at. (Jenkins 2005)

At the heart of most exhibitions is a curatorial question or set of questions. These questions are a structuring device for the curator, but also an invitation to the act of interpretation for the audience. Ideally, exhibitions aim to make visible that which is otherwise invisible; make tangible that which is obscure. Asking the right questions -- enlisted through subtle manipulation or heightening engagement through anticipating the insight of a knowledgeable audience -- are all part of the art of curation.

This dissertation explores the modes of display and the explicit and implicit questions raised by the exhibition of videogames. This research proposes that the exhibition of videogames is more productively explored if they are situated and understood as cultural objects and examined to highlight how they reflect larger cultural patterns. The museum provides a context and authorisation to explore videogames, validating them as cultural artefacts with aesthetic and socio-cultural significance. The relationship of videogames to the museum also presents fertile opportunities for exploring the re-mediation of the museum.

Videogames are now a prominent part of the cultural landscape, an overwhelmingly popular form of entertainment. In addition to their celebration as electronic entertainment, videogames provide computational challenges of the highest order. The requirement for real-time dynamism and interactivity drives new hardware and software development. In turn, these advances in technology enable new forms of engagement.

In 1936 Walter Benjamin wrote his seminal essay ‘The Work of Art in

the Age of Mechanical Reproduction' in which he commented on the pointless discussions that greeted each new technology of representation in the arts. Complaining, "Earlier much futile thought has been devoted to the question of whether photography is an art. The primary question – whether the invention of photography had not transformed the nature of art – was not raised. Soon the film theoreticians asked the same ill-considered question with regard to film". (Benjamin 1988, p. 227) A similar process has played out with the introduction of videogames into the gallery. In examining the exhibition of videogames and in considering the manner in which they are both displayed and consumed, it is possible to follow the line of inquiry invoked by Benjamin.[4] Videogames, being the most popular form of digital media, reveal the potential of interactive digital culture, the Internet and participatory culture to expand the contexts of exhibition and display. This research examines a series of exhibitions of videogames by major institutions and the particular conditions of production and consumption that underpin them.

This chapter offers a brief introduction to the idea of the museum and its relationship to videogames as both digital media and popular culture. In understanding that there is a distinct and highly commercial industry for the design and marketing of videogames, this paper addresses itself to these and to the other types of games that find their way to the gallery, such as independent games, mods (game modifications) and art games. The work is presented in the context of particular exhibitions and their individual contexts. To help contextualise videogames in the gallery, this chapter also investigates videogames in the context of digital art exhibition generally, highlighting their shared challenges and exhibition frameworks.

[4] The analogue to the question raised by Benjamin is that of how videogames have transformed the nature of prior entertainment arts such as cinema and digital media. This question is not addressed directly in this paper.

2.1 Cultural Gatekeepers

In his essay, 'Postmodern Restructuring', Nick Prior uses the *Game On* exhibition at the Royal Museum Edinburgh to voice the anxiety that the contemporary museum has "slid toward the postmodern cultural scene". With its collection of over 120 playable games and the offer of 'hands-on enthrallment', its modus operandi was "based upon the 'soft values' of consumption, distraction and spectacle." (Prior 2006, p. 509) Whilst Prior is being deliberately provocative, for he goes on to discuss how the contemporary museum is indeed being transformed not just by the economic realties of the age but also by new ideologies and new museum practices. However he is obviously confident that videogames provide a convincing example of the demise of everything noble and pure that the reader would understand the museum to represent.

While the binary opposition between high and low culture may be becoming increasing redundant to the way we consume media, it can still trip us up at the entrance to the museum. The museum's status as cultural gatekeeper is one that is hard to dismantle. It is associated with the static, the monumental, with historical permanence, materiality and with education. Whilst the culture of museums and galleries as public institutions is constantly evolving, it cannot be denied that the public itself takes reassurance from the sense of them acting as a high-water mark for human endeavour. Whether you are ascending the foreboding steps and portico of the nineteenth century museum or crossing the threshold of the new generation of heterotopic buildings, there is the promise that what you will encounter on the other side will be worthy of serious reflection.

The nineteenth century museum was a place of enlightenment and education. Complicit with the modernist narratives of progress, its practice was built on categorisation and the controlled deployment of knowledge. In comparison, its forbear, the eighteenth century museum, offered little

interpretation. As a descendant of the cabinet of curiosity, it simply put the wonder of its objects on display. It was the 19th century museum or 'modernist museum' that instituted the authorative and edifying system of display in service a new social and political pedagogy. (Bennet 2006; Hooper-Greenhill 1992, 2004)

> The 19th-century public museum was tasked with the production and dissemination of knowledge. Its epistemological identity was constructed through a range of collection-related disciples (art, natural history, geology, archaeology, ethnography). It was intended, at least in part, to convert raw humanity to civil society, to create docile bodies. (Hooper-Greenhill 2004, p. 559)

At the end of the 20th century, Postmodernism had the museum adjusting its interpretative frames and in this process the elitist heart of the museum was exposed and questioned.[5] (Bourdieu 1984) The politics of representation brought greater attention to the way in which knowledge is produced within the museum. The recognition that all representations are socially, politically, ideologically and institutionally mediated, revealed how the museum's grand narratives were infused with acts of exclusion, domination and racism. (Ames 1988; Karp & Levine 1991; Luke 2002) Moreover in the era of late capitalism, museums were seen to be seduced by spectacle and commerce, to become 'supermarkets of culture' focused on blockbusters, merchandise and expansive cafes. (Baudrillard 1982; Jameson 1991)

In this period the Internet also brought about the rise of the 'virtual

[5] French sociologist Pierre Bourdieu examined the role of art museum in terms of how it fulfilled the social function of 'legitimising social difference'. In Bourdieu's reading the museum role was neither simply to educate nor persevere but that these activities helped support its 'true function' of demarcation within society. In Bourdieu's reading the significance of the art museum within society was based on its ability to reflect visitors social capital to "reinforce for some the feeling of belonging and for others the feeling of exclusion". (Bourdieu 1984)

museum' – the 24/7 museum. Established institutions started addressing how they could use this technology to make their collections more accessible to audiences and exploring the opportunities for curatorial practice online. The Internet has also supported the creation of new types of cultural organisations beyond the museum, formed by independent groups of curators, artists, theorists, and gamers who exhibit and publish online. More agile, more niche-focused in their fields of endeavour and frequently able to draw on the combined knowledge of large communities, these 'expert' online institutions both challenge the authority of the museum and blur institutional boundaries. And, as Whitney Museum curator Christiane Paul concedes, they do not lack sophistication: "It is not unusual that the websites of non-profit organisations are better designed, more comprehensive and technologically more sophisticated than a museum's site." (Paul 2006, p. 93) These new online 'authorities' also contribute to the blurring of boundaries between popular culture and fine art. For those interested in experimental games and game art, independent sites such as *GrandTextAuto*, *Collision Detection*, *we_make_money_not_art* and *Selectparks* feature a mix of work produced by artists, gamers and industry. This content is celebrated in terms of its ideas and aesthetics, not who made it or its intended audience or market.

In relation to the notion of the postmodern, Douglas Crimp foresaw the museum's ruin, predicting the collapse of its homogenising modernist discourse and its demands for unifying systemisation.[6] (Crimp 1993) Yet despite the challenges of postmodernism, the lure of spectacle and the promise of consumption, the contemporary museum did not crumble nor implode as envisaged by Baudrillard, but survives as a constantly evolving

[6] In 1993 (the year Mosaic transformed the Internet) Llewellyn Negrin argued for the increasing importance of the museum as arbiter and gatekeeper in an era where the question of what constitutes art had become increasingly arbitrary. (Negrin 1993)

organism.[7] Within the contemporary museum various tendencies co-exist – aesthetic contemplation and entertainment, connoisseurship and consumption, private delectation and public provision – with each institution balancing its approach differently. (Prior 2003, p. 63) Without abandoning their sense of authority, museums attempt to create a dialogue with their public, examining ways that visitors can meaningfully contribute to the museum's knowledge and narratives.[8] For example, the exhibition *Game On* (2002-ongoing) offered its audiences, predominantly gamers, the opportunity to tease out their own understandings and test their interpretations against the curatorial framework. The invitation presented by the exhibition recognised the audience's knowledge and expertise.

2.2 Digital Culture

Videogames are the digital arts doppelganger, their crass, popularist, prosperous and prolific twin, but also their nurturer, tutor, toolkit and trailblazer. They share much of the defining characteristics of digital art, but where audiences and the museum are still struggling with the place of digital art, the public has fully embraced videogames. However, despite their popular reception when placed in the gallery, videogames share many of the issues faced in exhibiting new media art. Interactive installations, Internet art and computer art have all created challenges for the art establishment. Before them machine art,

[7] Baudrillard's famous essay on the Beaubourg sees the Pompidou Centre under imminent threat from collapse under its swarming crowds' insatiable desire for consumption. (Baudrillard 1982)

[8] By way of contrast, museum audiences want the museum to offer an authorative voice. Susan Crane documents the anger and disgust recorded in the visitor's book at the Vancouver Museum of Anthropology at the University of British Columbia to an exhibition of masterpieces of Native American Jewellery. The curators, in an attempt to engage visitors with ideas about how knowledge is constructed had, in the labelling of each object, asked visitors to think about why the artefact was being included. Rather than embracing this invitation, visitors were angered and confused by the approach and the visitors book was replete with complaints. Audiences felt betrayed that the museum had failed to educate or entertain them but had rather undermined knowledge and made the visitor feel anxious. (Crane 2004)

experimental film and video art complicated the life of the curator. New media has a long history in the gallery. In the early 1960s artists and critics were asking questions regarding what they saw as the role of the arts in a technologically-driven society. “Are computers, consumer electronics and communication theory transforming art production or simply obscuring it?” (Sutton 2004) Since the pioneering days of computer-based art, the arrival of the microprocessor and the Internet have created many new challenges for the traditional gallery. These include their technical demands, their frequently opaque aesthetics and an abiding suspicion of their links to industry, commerce and the military.

The wretched nomenclature of the arts has bequeathed the discipline a set of inadequate terms. For example ‘new media art’, while it has its origins in the 1960s, film and video movement, rolled digital art in as the latest ‘new’ media without missing a beat. ‘Digital art’, which originally defined a new type of art and production process embracing the potential of the computer, is now threatened with meaninglessness. For today, most traditional art forms such as photography, painting and sculpture are all produced using digital technologies. Curator Christiane Paul argues that digital art is work that uses digital technologies as a medium, rather than simply as a tool. She offers a list of distinguishing characteristics of the art of digital technologies: “time-based / dynamic, interactive, participatory, customisable, variable and posing its own set of challenges”. (Paul 2007) It is apparent that her list could serve equally well as a description of the defining characteristics of videogames.

The exhibition of the art of digital technologies creates many practical challenges for the gallery. The technology itself can be an issue for many traditional exhibition venues. Sourcing appropriate display technologies can be difficult and expensive. Keeping the technology functioning properly can be a significant task, particularly without on-call expert technical support. Many works require an intimate knowledge of

the entire work and its interface to be able to determine if it is responding correctly. Frequently developed on minimum budgets without opportunities for rigorous user-testing, artist code can be less than robust and prone to failure.

In addition to these functional issues, there are new challenges for audiences that place demands on their time and skills. For the work to reveal itself, the audience is expected to spend a sufficient period of time with it. To achieve this and traverse the work, they must first successfully master the interface. Other demands on the audience are less hands-on, such as the new aesthetic challenges that process, procedural and database art works pose. (Graham 2006; Paul 2006, 2007; Pearce 2006)

Digital media's focus on collaboration and process-based work presents challenges to traditional notions of authorship and originality. New understandings of the author are developing in an age of online collaboration, Creative Commons, shareware, hacking and digital sampling and remix. Net-art has queried the significance of the gallery itself as the most appropriate place to show work and raised uncertainty as to who are the audiences for digital art. (Graham 2006; Lichty 2002; Paul 2006, 2007)

In the loss of sometimes both object and author, digital art presents a challenge to the gatekeepers of art world. Digital art reframes the traditional distribution infrastructure for art and is not complicit with the economic equations of an object-based art world. Like videogames, much digital art offers no objects, just pixel and code. And what value can be placed on something that does not really exist until it is interacted with? (Paul 2006; Pearce 2006)

Videogames, as the most popular form of new media art, perhaps complicate the issues even further. Outside the museum or gallery, they often have a very explicit monetary value. Paradoxically, inside the institution, audiences are asked to consider their non-economic value.

Museums, despite their difficulties with exhibiting videogames, have much to learn from the relationship that videogames have with their audiences. Videogames engage a broad range of individuals across economic, age and gender demographics. A significant proportion of this audience is actively involved in not just consuming games, but in exploring the re-mediation of original game artefacts, often via online forums, communities and web sites. It is this culture of 'meaning-making' by user-communities, independent of institutional structures and strictures, which suggests valuable opportunities for museums.

2.3 Computational Changes

In discussing the curation of videogames, this dissertation acknowledges the powerful way videogames are defined by their symbiotic relationship to technology. The demands videogames have exerted on the evolution of technology were not merely directed toward better graphics and more processing power, but to supporting the powerful desire of people to play together more effectively. Games theorist Robert Nideffer explains the pivotal role videogames have played historically in propelling some of the core domains of computing forward much faster than they otherwise would have evolved.

> The contribution of games has been gargantuan, whether you look at the history of computer graphics from a software engineering standpoint, the development of hardware display devices, input devices, networked operating systems, networked multimedia delivery systems, and more recently the engineering of graphics cards, or the attempt to integrate various everyday communication modes (chat, email, instant messaging, voice over IP, FAX and GPS) into a singular and coherent entertainment experience. In fact, games and the desire to play them socially has arguably driven the design and deployment of these and other such technologies faster and

> further than any other singular computing activity.
> (Nnideffer 2007)

Videogames are not just driving bigger, faster, shinier technology experiences; they are driving the development of social experiences. The discussion of videogames is informed by a critical framework that embraces both the spectre of technology and addresses the potential readings and rewritings of the original object created by the actions of the gamer. Games theorist James Newman argues that the act of playing a videogame cannot be adequately considered or appreciated without a deep understanding of the ways in which it is enmeshed within and informed by its cultures and communities, all of whom contribute to the collective knowledge of videogame culture. (Newman 2008, p. 14) The inherent creativity and productivity of gamers is illustrated by the plethora of diverse practices that surround, support and inform gameplay: sites dedicated to tips, tricks, walkthroughs and FAQs, rich online discussions and forums that research and document games in detail and project beyond the designed object to imagine other possibilities for the worlds, narratives and gameplay, collections of fan art and fan games, dedicated archival sites, machinima and cosplay. Player production is also reflected in the development of new modes of play, such as ‘emergent’ and ‘glitch play’ and, of course, the ability to alter the game-code itself to produce ‘skins’, ‘patches’, ‘hacks’, ‘mods’ and totally new games (full conversion mods).

Art historians have traditionally analysed the structure of cultural objects as reflecting larger cultural patterns. However, in the case of new media, Lev Manovich argues “we should look not only at the finished objects but first of all at the software tools, their organisation and their default settings.” (Manovich 2002, p. 258) The videogame industry has offered an unprecedented amount of access to their players, blurring the traditional boundaries between the creator of a system and the users of

the system. Videogames were a pioneering technology in allowing their consumers opportunities to create their own content. This ranges from in-game assets to full modification. Even where support is not offered, gamers have been able to hack and patch game engines. While players initiated player-produced content, the phenomenon has been co-opted as part of how games are designed and marketed.[9] Many games offer in-game toolkits to make and customise assets or produce level designs, generally with an understanding of the importance of community to the creation of player-produced content. Epic, for example, have created a business model around the use of their *Unreal* Engine for developing new content. Epic supports a strong online community that produces many games and mods. Player produced content as key gameplay has become common. For example *Spore* (Maxis, 2007), *Trainz* (Auran, 2001 - ongoing), and *Little Big Planet* (Media Molecule, 2008) all feature in-game content creation and the sharing of assets across the Internet as key gameplay.

Videogames put their technology on display. They can't help it. They belong to an economy that is technology obsessed and always looking over the horizon to the next technological innovation. They don't really need the gallery for this, as they have their own exhibitions dedicated to revolutions in interface design and the showcasing of the latest visualisation technology (E3, Tokyo Games Show, Liepzig Games Convention et al). Despite the industry's focus on the technological future, gamers keep bringing videogames' history back and presenting it to industry. Gamers are still making games for discontinued consoles and the phenomenon of retro-gaming has seen industry encouraged to re-release packages of historic games by migrating them to new platforms. The games industry is remarkably responsive to gamers, seeking their advice

[9] Modding however has a longer history than id software and the number one selling arcade game in the USA, *Ms. Pac-man* (Midway, 1982) was actually a circuit board mod of the original *Pac-man* (Namco, 1980) arcade game by two American students at MIT Doug Macrae and Kevin Kurran. (Kent 2001, pp. 167-73)

and monitoring their opinions. Many commercially successful models have been harvested from gamer-culture; the stealth game, for example, was developed on the basis of the actual in-game behaviour of players. Whilst the culture of game-hacking continues to be tactical in its relation to videogames - adapting, re-imagining, reworking – harnessing the creativity of gamers is now an industry strategy.

Gamers have also been doing the traditional work of the museum by documenting and preserving the history of games. There is a growing recognition of the importance of the types of participatory culture offered by new technologies that allow average consumers to “archive, annotate, appropriate and recirculate media”. (Jenkins 2006, p. 1)

If the culture of videogames is built upon the creativity, productivity and sociality of gamers, how does this inform and affect the exhibition of games? What can gamers teach the museum about the changing cultural landscape and the increasing importance of vernacular knowledge? This dissertation will in part examine these questions in addition to reflecting on the narratives that have been generated by four influential exhibitions of videogames.

3. Play on Display

This chapter examines two seminal exhibitions of videogames - *Hot Circuits: A Video Arcade* (1989) and *Cracking the Maze*: *Game Plug-ins and Patches as Hacker Art* (1999). The former allowed an exploration of the institutional context of the museum as the home of curated content. This is in contrast with the latter that offers a seminal example of the Internet as a site for exhibition. Both exhibitions recognised and responded keenly to the distinctive qualities of videogames' technology and culture of their eras. This chapter will examine how these exhibitions profiled videogames as digital media. It will also examine the role of the Internet in changing curatorial practice. *Hot Circuits: A Video Arcade* (1989), curated by Rochelle Slovin, the director of the American Museum of the Moving Image (AMMI), was one of the earliest exhibitions of videogame culture. The arcade machines Slovin collected for this show became the founding games collection for AMMI, which now boasts one of the most comprehensive public collections of videogames worldwide. *Cracking the Maze*: *Game Plug-ins and Patches as Hacker Art* (1999), an online exhibition created by independent artist-curator Anne-Marie Schleiner, featured web-sourced game patches produced by gamers and artists.

Hot Circuits (1989) can be considered the first dedicated major institutional exhibition to explore videogames as cultural artefacts. The American Museum of the Moving Image in New York opened in 1988 and was still a youthful venture when it embarked on *Hot Circuits*. It was one of a new breed of museum dedicated to screen culture and was engaged in the process of positioning itself as a major museum and developing a canon for the moving image[10]. When AMMI embraced television and videogames as part their cultural remit, these media were still considered

[10] The American Museum of the Moving Image opened in 1988 and was granted accreditation from the American Association of Museums in 2006. It has recently further developed its site with its new buildings and renovation further helping to signify its importance.

questionable, compared to the acceptance of film as a serious artistic medium. In making canonic claims for videogames, *Hot Circuits* was a bold exhibition. In comparison to *Hot Circuits'* demands for the cultural legitimacy of videogames at the cultural centre, *Cracking the Maze* of 1999 was a voice from the periphery. As an online exhibition it offered a challenge to the conventional distinctions drawn between games and art, audiences and creators and explored the Internet as a site for challenging traditional curatorial models. Where *Hot Circuits* addressed itself to apotheosising the historical objects of videogames' short history, *Cracking the Maze* was about subversion, transgression and new frontiers.

3.1 Hot Circuits

Director of the American Museum of the Moving Image, Rochelle Slovin, recounts how her proposal to mount an exhibition on videogames in the late 1980s was received with 'raised eyebrows' from the gallery's trustees. Their concern was not merely how videogames related to the institution's mandate but, as she explains, there was a real concern about 'what was worth saying about them':

> I knew that video games were not, as many dismissed them, a trend or a fad, but, on the contrary, the beginning of something significant. Exactly what, I was not sure. I sensed that digital media were not about to go away, and would in fact increase in importance. It seemed that the merging of the computer and the CRT was creating a genuine form of interactivity – a much-hyped concept even back then. Not least, I realised that videogames were acclimating a whole generation of young Americans to computers. (Slovin 2001, p. 138)

Slovin took as her guiding curatorial question, 'what exactly do video games tell us about the moving image?' She identified parallels between videogames' arcade origins with the sideshow origins of cinema.

Comparing that generation's formative encounters with arcade videogames to the pre-cinematic-devices that once populated the fun parlours of the nineteenth century, Slovin found much commonality. Each offered the coin-op screen-based technology thrills of their era. Where the old penny arcades offered many their first encounter with moving pictures, arcade games have provided many people with their first opportunity to actively interact with the screen and their first experience of computer technology. *Hot Circuits* was to be an early step toward reassessing moving image culture in terms of the arrival of digital media.[11]

Slovin aimed to link videogames to the history of the moving image and also explore those features that defined them as digital media[12]. In the abstract aesthetics of the early games, she identifies the compression of ideas and the elegance of the execution these games as examples of the 'super rational', a quality she equated with the computer. She celebrates the arcade games as an art defined by its limitations; an art of 'poetic sparseness' formed by the games' technological dependence. She particularly noted how these early games reflected the pure mathematics that created them. (Slovin 2001, p. 138) In their simplicity they rendered visible the cybernetic loop, illustrated by the response on the screen to a player's action. Each game could be appreciated not just in terms of gameplay, but also with a sense of the achievement of the pure mathematics that underwrote each function. The early arcade games put the burgeoning computer technology on display and this transparency was identified as part of their appeal in the gallery.

As part of its collection, AMMI boasts an assortment of nineteenth-century pre-cinematic devices such as kinetoscopes and mutascopes that

[11] Their experience with *Hot Circuits* led the Museum of the Moving Image to change their mission statement to include digital media and in 1991 Carl Goodman was appointed as the Curator of Digital Media -- possibly the first curatorial appointment of its kind. In hindsight, the idea of digital media is now anachronistic as nearly all media is digital to some degree.

[12] Slovin actually uses the phrase 'new media'. I have taken the liberty of changing it to 'digital media' as she contextualised it in relation to the arrival computers rather than part of the continuity of video etc.

they use to illustrate the early history of the cinema. The development of *Hot Circuits* offered the opportunity to develop a collection of videogame arcade machines. However in 1988, whilst there would have been no shortage of scholarship available on the pre-cinematic arcade, there was little videogame scholarship available to draw on. Even the popular press offered only a limited selection of articles. With the support of *Hot Circuits* curatorial advisor Roger Sharpe, a pinball historian, William/Bally employee and long-term arcade game reviewer for *Play Meter* magazine, Slovin generated a list of 'top games with museological interest'. The list was comprised of founding games, space-games, character driven games, driving games and culminated in the difficult to classify but remarkable 1988 game *NARC* (Eugene Jarvis, 1988). (Slovin 2001, p. 141)

As the game machines were to form part of the museum's permanent collection, their cabinets needed to be original and in good condition. At this time the majority of arcade machines were just a few years old and classified unsentimentally as redundant technology rather than recognised as valuable collectables. Many arcade operators would recycle cabinets by changing the chips and repainting and decaling the cabinets. AMMI's collection policy required original objects with the interface intact. It was the museum's intent to allow visitors to play the games on the original machines so the acquisitions were both objects for preservation and interactive museum displays, a difficult balancing act for a museum collection.

For the exhibition, the cabinets were displayed carefully so as to both resemble the layout of the arcade and yet reflect the sensibility of the gallery. Presenting a stylised version of the arcades, the machines were set over two metres apart and angled off the wall at 45° so as to show off the cabinet's sculptural mass and panel art work. Didactic panels were positioned between the machines, punctuating the rows with information explaining the characteristics that made each game unique as digital

media, a mix of innovation and thematic exploration -- *Missile Command* (Dave Theurer, 1980), for example, was celebrated for its unique interface design and exploration of the era's cold war anxiety. J.C Hertz, author of *Joystick Nation,* notes that this careful positioning in the gallery elevates the cabinets to 'design objects'. (Hertz 1997, pp. 61-2) The line-up also recreated the all-important public performative element of the original arcades. Arcades made gameplay a social event; a high-score was not a solitary victory but a performance. Hanging-out, socialising and watching others play was an important part of the arcades - many arcade visitors spent much of their time just watching others play.

Audiences for *Hot Circuits* were given five tokens to "encourage them to play the games" and more tokens were available for a fee. (Slovin 2001, p. 143) This seems curiously restrictive as what would the experience of the gallery visitors be without playing the games? Were they simply being asked to admire the machines as sculpture in the round? Was there an expectation that the majority of the audience would engage with the work purely as spectators? An alternative reading is that, with a choice of only five free-plays from the collection of forty-seven machines on display, selecting where to spend your tokens actually helped to engage visitors. In replicating the arcade challenge of getting value for your coin in a pay-to-play environment, attention was drawn to key design features of the arcade game. This idea is teased out in Charles Bernstein's catalogue essay for the exhibition, where he identifies the challenges offered by the arcade game for manipulating time and the idea of buying time, of "extending the nominal, intensely atomized, thirty-second (or so) minimum play to a duration that feels, for all practical purposes, unbounded". (Bernstein 2001, p. 157)

The artificial economy of scarcity of time and resources is a principle of arcade game design as it helps drive the player's goal-orientated behaviour. Arcade machines, with their design philosophy of 'easy to play

hard to master', rewarded the skilled player in two very public ways; most importantly with a high score on the machine's leader board, but also with a sense of visible presence as they monopolised the machine with an extended single play. *Hot Circuits* five tokens go some way to representing the arcade economy in the gallery (as well as creating a possible revenue stream for the museum). By maintaining the machines as coin-op, AMMI preserved the object as originally designed in accordance with their museological standards for collection and preservation.[13]

In situating videogames as part of the continuum of the story of the moving image, videogame technology was also given context. Slovin noted the exhibition offered the rare experience for the young to witness a sense of history passing. Many of the younger audience had originally experienced the games as new and were shocked by how in just a few years they felt so dated and offered a powerful evocation of time passing. (Slovin 2001, p. 146) Museums, as Slovin explains, are most familiar with the rapid evolution of digital media as it quickly consigns cutting-edge technology displays to passé. Rather than attempting to present technology as spectacle, *Hot Circuits* offered a reflection of technology's rapid redundancy and videogames' conflicting identity in the gallery as both 'new' and 'old'.

3.2 Operating environment

In his catalogue essay for *Hot Circuits,* Charles Bernstein reflects on how technology dominates our understanding of videogames. (Bernstein 2001, p. 155) He addresses some of the popular mythology of the era, in particular the positioning of gamers as 'lost boys' who reach redemption through their relationship with games and technology. This narrative of

[13] This is in contrast to *Game On* for which, the machines acquired by the Edinburgh Museum for the *Game On* tour had been hacked to support a free-play mode. A majority of the consoles that display the playable games in *Game On* have also been hacked to make them more suitable for exhibition. Most of these machines don't retain their status as 'precious' artefacts and are simply part of display technology.

'from waster to redeemer' can be witnessed in films of the era such as *Tron* (1982) and *The Last Starfighter* (1984). These are situated in the context of a larger belief in the redemptive possibilities of technology.

In understanding games as digital media, Bernstein directs the *Hot Circuits* audience to the computer operating systems. He argues that the computer-controlled space of these early arcade games is one place where ideally there is a guarantee that the correct action will give the correct result. In exploring videogames as rule based system, he speaks of the thrill of being locked in the computer's continuous present, as it demands the user's input and the curious disquiet caused by their command-control nature. Videogames of this era, he suggests, explore the most paranoid fantasies of control and catastrophe associated with computer technology (and the cold war); fears that are reinforced by the computers endless vocabulary of crisis, 'error', 'abort' and 'system crash', as well as its links to the techno-industrial military complex. He suggests that the vicarious thrills these games offered players were to match their skills not only to the challenge of the game, but the close encounter with new and impenetrable technology.

At the time that Bernstein was writing his catalogue essay for *Hot Circuits,* most people's experience of videogames had moved from the arcades to the home. His writing, in fact, reflects both the language and the more intimate relationship that home consoles and computers offered and heralds the arrival of an increasing computer presence in society. *Hot Circuits* is an exhibition that recognised the passing of an era and set out to collect and preserve those original artefacts. In contrast *Cracking the Maze,* an online exhibition of game patches, moves beyond the idea of the original artefact, as the game patches are interventions into existing videogame software. The exhibition was not displayed in a gallery but the works were collected and distributed online as a series of downloads.

3.3 Cracking the Maze

The second influential exhibition *Cracking the Maze: Game Plug-ins and Patches as Hacker Art* sits outside the traditional museum structure and was located on the Internet. It was curated by Anne-Marie Schleiner for the online zine *Switch,* which is published by the Computers in Art, Design, Research, and Education (CADRE) Laboratory for New Media of the School of Art and Design at San Jose State University.[14] *Cracking the Maze* is a show that explores the Internet both as a site of exhibition and as a site of production and distribution. The exhibition is focused on the gamer as producer and the artist as gamer. It explores the potential of digital media's mutability and its symbiotic relationship with the Internet. It is a show that happened outside the gallery system and addresses itself to the broader culture of player activity that surrounds videogames.

The exhibition does not address videogames as designed artefacts, but examines the culture of game patching, a popular art form that evolved from within the online game community. For the exhibition she selected a number of gamer-authored game patches found online and sought game patches from artists. A game patch is, as the name suggests, an add-on to an existing game engine. It is an additional piece of code that alters the original code or state of the game. Patching is traditionally used for bug fixing, for a patch can manipulate the original game altering its graphics, audio, AI, gameplay, physics, architecture or any other of its attributes.[15] In the late 1990s patching was part of larger set of creative activities associated with player-authored game modifications.[16] What defined this era's game hacks from an earlier age of cartridge hacks and

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[14] Published since 1995, *SWITCH* is one of the earliest online journals focusing on art and technology.
[15] Based on Schleiner's definition of the time. The expression 'patching' has evolved since 1999 to be almost exclusively associated with bug fixes. The term modding has evolved to cover both total conversion and partial conversion alterations to game code.
[16] It is estimated that about 10 – 20 % of hardcore FPS gamers create and share mods. This figure does not include the wider community of modders who make assets for *The Sims*, *Trianz* and other simulations. (Poremba 2003)

bedroom coding was the capacity of the Internet to support and sustain creative communities around videogames and player-produced artefacts. Gamers as digital natives were a group that quickly utilised the Internet to build communities, share information and distribute work. As Schleiner explains the “Internet has become the locus for computer gaming fan and hacker's exchange of patching, secrets, game guides and Easter eggs." (Schleiner 1999a)

Schleiner in her online call out for work for *Cracking the Maze* states her desire to challenge representations of both ‘art’ and ‘videogames’ and the creative roles of ‘artist’ and ‘game hacker’. Challenges facilitated by operating in the online space, whose many-to-many communication, proliferation of information and fluid links had created a levelling effect, was questioning the nature of established institutional boundaries and power relations:

> “*Cracking the Maze*" will exhibit both game patches created by artists and game patch artefacts from the web produced by the original game hackers, in an attempt to generate an open discourse on art, games, game hacking and gaming culture on the Internet. (Schleiner 1998)

As a gamer, artist and curator Schleiner identified the increasing cultural significance of videogames as informing our perceptual and interpretative frameworks. For *Cracking the Maze* she wished to showcase the work of the games community and explore the potential of patching and modding as a tactic for artists to create work and contribute to the ‘emerging game spaces we will inhabit’. (Schleiner 1999a) Hers was one of the earliest exhibitions to present a collection of artistic game mods. She describes her personal curatorial practice as ‘filter feeding’. Filtering is a form of describing and classifying within the online environment. It is the series of links that are made between sites online so that relationships are created in the manner in which objects are juxtaposed and aligned in the

gallery space by the curator.

It is significant that for *Cracking the Maze,* Schleiner, despite declaring the mix, does not distinguish between those works created as art pieces and those as gamer hacks. She also treats the audience as gamers (in this context meaning expert users) and demanded a high level of technical competency and familiarity with the medium. As an exhibition it required that its audience provide the technologies for display, both hardware and (in some cases) software, as well as possess the technological sophistication to manage the downloads and installs. These assumptions are also situated in an understanding of the Internet's capacity to support and service niche communities of like-minded groups who share specialised knowledge.

The exhibition was directed at both gamers and new audiences for art. For just as gamers had colonised the web in the 1990s so had artists and curators exploring the potential of the web as a site for production and distribution and a means to work outside the institutional art world. Many of them like Schleiner and the founders of *Selectparks* were both artists and gamers. *Selectparks* is a site created in 1998 by a small group of gamers and artists as a resource for news, exhibitions, artworks, tools and theory relating to the practice of artistic computer game modification and development. It existed as a virtual online organization created by artists interested in games technologies to support this new area of creative practice before there was any institutional interest in this work. It is also representative of the new community-created online groups who are now providing the critical, theoretical and promotional roles that traditional media organisations once monopolised. Online, the traditional gate keeping could be circumnavigated and new areas for creative practice could be explored and colonised. (Lichty 2002; Paul 2007; Schleiner 2003) Schleiner and *Selectparks* represent a new generation of artists working with videogames as digital media, exploring the mediums opportunities for

agency, manipulation and remediation.

The “Public space”, Schleiner states, “has shifted to the web and engages with audiences located geographically distant from each other perhaps with tastes and hobbies closer than those shared by the average museum patron.” (Schleiner 2003, p. 3) *Cracking the Maze* is an example of how the Internet offered curators of digital media an alternative to the existing organisational structure for exhibition and access to specialised audiences. Schleiner champions the potential of the online niche community to be highly productive and focused. Whilst *Cracking the Maze* offers a collection of works selected by the authority of the single curator, the hypertextual nature of the Internet places the work just a click-away from dynamic new contexts. In the fluid space of the Internet, argues Schleiner, every website owner is a “curator and cultural critic through the selection process of linking their site which sets up chains of meaning through association, comparison and juxtaposition”. (Schleiner 2003, p. 3)

3.4 Agency and Intimacy

Media Archaeologist Erkki Huhtamo’s catalogue essay for *Cracking the Maze* situates the game patch into a historical continuity for altering and remixing media, locating it within a history of tactical media, in particular Scratch video of the seventies and Scratch’s strike at television media ownership. He carefully distinguishes, however, between the aims of the games patcher from the form of tactical media focused on a centralised media broadcaster. Compared to the ‘distant media’ of television, notes Huhtamo, we associated videogames with a powerful sense of intimacy. He claims for videogames a more intimate relationship than other media as “our contact with games has been tactile, informal and familiar”. This intimacy he identifies with their invitation to play and our relationship with them as “technological toys”. (Huhtamo 1999)

Indeed the game patchers are playing with the stuff of videogames,

exploring the mutable possibilities of code, teasing, challenging and questioning the culturally constructed worlds of videogames. The exhibition's curatorial premise was for game patches that "infiltrate gaming culture …to contribute to the formation of new configurations of game characters, game space and game play". (Schleiner 1998) The work in *Cracking the Maze* ranged from formal explorations of the algorithmic nature of games such as Jodi's *SOD* (1999), to questioning the gender assumptions of game worlds and subverting players' fantasies.

Robert Nideffer's *Tomb Raider I & II Patches* (1999) are actually themselves patches of *Nude Raider*, the infamous nude patch for *Tomb Raider* (Core Design, 1996) that removes Lara Croft's clothes to reveal her rather absurd low poly bumps. *Nude Raider* is a hack that is generally considered as evidence of Lara's role for many players as a fetish object for the male gaze. Nideffer reworks the *Nude Raider* patch to present Lara as transsexual, as drag queen and as a moustached Duchampian *Mona Lisa*. (As the player spends much of the game staring at her rear-end they should know if her arse is indeed, hot!)

Josephine Starrs and Leon Cmielewski's *Bio Tek Kitchen* (1999), a total conversion patch for *Marathon (Bungie,* 1994*)*, is a humorous feminist attack on the male domain of the first person shooter, dropping players into a berserk kitchen assault where they must defend themselves from rampaging vegetables with spatulas and tea-towels. RTMark's *SimCopter* (Maxis, 1996) is a hack that actually shipped with the game (this information is not revealed by Schleiner in the exhibition documents). Created surreptitiously by a Maxis employee whilst working on *SimCopter,* it was both a protest of the exploitative work conditions of the game industry and an attack on the crass titillation offered by the game.[17] The

[17] Maxis employee Jacque Sevrin made the *SimCopter* patch. He was influenced by the ideology of the group RTMark who later paid him for the project. Maxis, on discovering the hack in the published game, terminated Sevrin's employment with the company.

patch was an easter egg that on the creator's birthday converted the bikini bimbos poolside into buff boy bimbos, subverting the existing heterosexist reward system with a more queer-friendly version.[18]

Patching, explains Schleiner, can "offer a humorous twist on the familiar tropes of gaming and create potential gaps where new gaming genres can emerge". (Schleiner 1999a) Patching and modding actually provide a way for gamers to talk back to industry. In addition to their subversive qualities, patching and modding can be seen as a form of player-led beta testing that is valued by industry. Schleiner explains how the industry co-opts their labour. She links the popularity of the early 'girl' patches for *Doom* (*Id Software,* 1993) and *Marathon* such as *Tina-BoB Shapes* (1998) to the introduction of Lara Croft in *Tomb Raider*, *s*eeing these player inventions as the precursors to alerting industry interest in creating a female protagonist like Lara. (Schleiner 1999a)

Located on the Internet, *Cracking the Maze* was just a click away from dedicated *Quake* (Id Software, 1997) skin sites and a whole nexus of mods, hacks, wads and maps. From a historical perspective *Cracking the Maze* has taken on a preservation role. It remains online, the work still downloadable, whilst the culture of player-produced content that germinated it has mostly disappeared, leaving behind a series of broken links and 404 errors. *Switch,* with its institutional continuity and ongoing pedagogic investment in the history of digital media, ensures that this bold independent exhibition has survived. The exhibition, notable for its subversive nature and its expression of the potential of the Internet to radically rethink the way we view digital art, videogames and curation, has also operated as a remarkable as act of preservation for a set of immaterial works from gamer culture.

In *Cracking the Maze* Schleiner explored how online categories of

[18] Also on his boyfriend's birthday.

cultural production can be blurred and new audiences for art and games can be identified. The exhibition served to profile the scattered landscape of production and distribution, artistic engagement, agency and conflicting authority for digital media. It highlighted the liberties proffered by exhibiting digital media where there is no object and no venue. As a site supporting the production and exhibition of art the Internet offered a challenge to established models and spaces for accessing art, presenting new ways of access and distribution that functioned independently of the institutional art world. (Paul 2006, p. 81)

3.5 Saved Games

Situated within the then newly founded American Museum for the Moving Image, *Hot Circuits* was an exhibition working to establish videogames within a canon of moving image culture. It expressed the institution's desire to recognise the changes coming to a cultural understanding of screen culture, as it embraced the arrival of digital media. *Hot Circuits,* whilst it celebrated the technological nature of arcade games, sought to focus on the relationship this technology created between audiences and the screen. In addition, it addressed itself to the arcade machines as designed objects and how the public related to them not just as objects in space, but the demands of coin-op and the resulting interaction this fostered with the machines in the arcade. The scale and monumentality of the objects themselves worked well for an exhibition that was about the canonical significance of videogames. It may be argued that *Hot Circuits*' most profound revelation for audiences, of history passing, made it an ideal exhibition to introduce videogames into the museum. It is a narrative that speaks to both a beginning and the need for preservation.

It is curious that *Cracking the Maze*, whose ambition was subversion - of opening up new spaces for curatorial practice and blurring categories of media production - has become by default an exhibition also about preservation. *Cracking the Maze*'s call to arms for a serious investigation of the online creative

culture that surrounded videogames was a timely intervention. *Cracking the Maze* developed from Schleiner's examination of the phenomenon of game modding and perception of how gaming culture utilises the Internet. The blurring of the sites of production, distribution and experience presented within game culture is reflected in the exhibition, which in turn offered a challenge to traditional exhibition culture. Schleiner looks toward the contemporary cultural practice of videogames to imagine how art and new institutions can re-invent themselves in the digital age.

4. Evolution, classification and difference

This chapter will examine two seminal exhibitions - *Game On* (2002) and *Gameworld* (2007) – whose impact and agenda have significantly raised the profile of videogames as cultural objects and explored their relationship to the museum. For *Game On*, the focus of the discussion will be on the structure and narrative. In particular it will consider how the exhibition uses the grand modernist narrative of progress, in which works are situated in relation to a preserved past and a future projected. In contrast *Gameworld* offers a more fragmented vision. Whilst *Game On* strived to present order and progression, *Gameworld*'s narratives juxtaposed alternate themes in order to provoke questions on the very nature of videogames and our relationships with them. In setting up this comparative analysis, the discussion also recognises that the significant difference between the two exhibitions is informed by difference in institutional context. The intent of this dialectic is to examine how these differing narrative approaches are used to construct meaning and engage audiences, as well as how curation has been informed by contrasting institutional agendas.

The touring exhibition *Game On* was developed at the Barbican Centre in London in 2002 and since then has been travelling internationally. It has evolved during this time, morphing to accommodate each new venue's ethos and absorbing new games and technologies as they emerge. It has been hosted in art galleries, science museums and libraries. When *Game On* launched in 2002 it asked audiences to think about videogames as objects of artistic and creative endeavour. The exhibition presents a chronology of games technology, introduces gameplay taxonomy and showcases game production and the marketing culture that surrounds commercial games. The curators strived to make nearly all works playable in the gallery. The original Barbican exhibition also included a series of commissioned works by artists exploring ideas

around our understanding of videogames. These commissioned works, designed to pose questions to audiences about the nature of videogames, have not featured in the travelling exhibition.[19]

Gameworld: Videogames on the edge of art, technology and culture was one of the three inaugural exhibitions at the launch of LABoral Arts and Industry Centre in Gijon, Spain, a major new arts development that opened in 2007. *Gameworld* was also the first of a trilogy of exhibitions exploring videogames and play that LABoral produced within its first two years of operation. *Gameworld* was a diverse collection of experimental games and art-works that presented a showcase of the possibilities of the medium. *Gameworld* combined art-works that explore videogames, artistic videogames and commercial games of significance.

4.1 Game On

Game On was first exhibited at the Barbican Gallery London in 2002. At the dawn of the twenty-first century videogames were an acknowledged part of everyday entertainment, situated alongside books, film and TV. They were also an important part of the fabric of childhood, where they nurtured imagination and learning. In late 1990s videogames had evolved to become a medium with hip credentials and street cool. *Quake's* online deathmatch had revolutionised how people used the Internet and *Tomb Raider's* Lara Croft had graced the cover of Britain's serious Pop style-guide, *The Face* magazine. At the turn of the century arcade games were over twenty years old and were now valued items of nostalgia and highly prized by collectors.

Game On's genesis is attributed to a fortuitous conversation between Mark Jones, the director of the National Museum of Scotland and

[19] The majority of these works still travel with the exhibition but have not been placed on display since the original show. The sound piece by Scanner was exhibited at a few venues but unlike the other works it was integrated into the exhibition narrative rather than displayed separately.

Rockstar games designer Lucien King, about the fact that videogames generated more export dollars for Scotland than its oil and gas reserves.[20] (King 2002, p. 11) Jones recognised the potential of videogames to appeal to youth and to draw young people into the museum. To produce a show of the imagined scale and breadth of *Game On,* The National Museum of Scotland formed a partnership with the Barbican Centre in London. The Barbican was in the process of trying to radically transform itself and develop programs that helped audiences make sense of the mix of art forms it supported. At the time it was the home of the Royal Shakespeare Company and was known predominantly as a performing arts venue, despite its contemporary art galleries. Set within a massive citadel of rather foreboding 1970s Brutalist architecture, the Barbican Art Gallery had been developing a series of exhibitions deliberately exploring more populist art and design subjects to help draw visitors in. These included the seminal exhibition *Serious Games* (1999) that showcased media artists working with games technology and exploring virtual space and interactivity. However, the breakthrough exhibition that redefined the Barbican's audience was *The Art of Star Wars* (2000). It explored the creative process involved in the making of the *Star Wars* movies and featured the concept art, model-making, costuming and special effects crafted for George Lucas's hugely successful space opera.

For *Game On* the Barbican revisited the idea of a focus on the creative process - the making of - that had been so successful for them with the special effects exhibition of *Star Wars.* It sought out objects to illustrate the making of games that resonated with the traditional values of the museum, ideally original works of art and craft. However due to the digital nature of videogames and the industry's cavalier attitude to its own history, there were few items available to accommodate such a curatorial

[20] King notes that most of this money actually ended up leaving Scotland, the home of the game developers, but not the publishers. (King 2002, p. 11)

vision.[21] The focus of *Game On* became the playable games themselves. These were juxtaposed with didactic information, some concept art and merchandise but it was the invitation to play that defined the exhibition.[22]

The exhibition is structured around a reassuring set of narratives of the didactic-expository approach to information that we expect from the museum. Whilst not quite the 'grand narratives of nation and empire' of the Victorian era Museum, *Game On* uses a familiar set of tropes of evolution, classification and difference. These established narrative frames are combined with over one hundred and twenty-five playable games, an offering that made *Game On* such a groundbreaking exhibition. *Game On* blends the traditional museum experience with an opportunity for a more performative engagement with the objects on display.

4.2 Grand Narratives

A central but unspoken narrative for *Game On* is the story of technological evolution. This is an almost unavoidable narrative as the story of videogames is intrinsically linked to their technological development. As more processing power and memory become available, each era represents a series of design triumphs over the previous. Most innovations, from networked play to hand-held gaming, are dependent upon successive development of hardware and software. The exhibition begins with a 'story of origins' tracing the beginnings of videogames back

[21] The original Barbican Exhibition offered a richer display of original art than the touring show. Original works by many studios were not loaned for the duration of the tour.

[22] In the making and marketing of games the invitation to play was supplemented by a display of concept art, other design artefacts and a specially created contextual display which included ten lines of code from *Grand Theft Auto III*. Marketing paraphernalia included *Grand Theft Auto III's* grab for controversy with a custom baseball bat that is obviously not sports equipment. *GTA*'s artefacts are juxtaposed with the *Pokemon* explosion. The abundance of *Pokemon* artefacts including comics, toys and animations is a recognition that *Pokemon* is not just a game. There is no one site where meaning sits but the meaning and the cultural significance of *Pokemon* is in its proliferation, its transmedia existence. The resonance of these items in the gallery is achieved through awakening the viewer to their cultural construction, to the negotiations, exchanges, and representational practices around the consumption of videogames both beyond and within the gallery. In displaying them they raise the question of their significance: Why have they been chosen?

to early experiments of the Tech Model Railway Club on MIT's giant PDP - 1.[23] This origins and evolution story continues with the early arcade game display and then through a history of consoles for the domestic market. These original arcade machines and home consoles are all playable with classic games of their era. The evolution's narrative concludes with a section on the 'future of games', showcasing a display of the most current games technology.

The technology theme dominant in the exhibition design and reception is dealt with as a subtext. None of the exhibition's signage or didactic information attempts to inform the relative power of each era's computers and the resulting effect on game design and gameplay. Rather than directly addressing this significant story, *Game On* offers the work itself up so that audiences can play the games and form their own opinions on the resulting changes in technology. In addressing the technological nature of videogames in a structural rather than didactic way the exhibition does not align itself with the language of a science display but sets out to focus instead on videogames as artistic practice.[24]

The exhibition itself is a compendium, an introductory text that tries to explain to its audience the breadth of the subject at hand. It did not set itself up to be a definitive 'best of' but was designed to introduce audiences to key ideas around the design and reception for games. The

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[23] *SpaceWars!* (1962) is more than an example of a game created for a laboratory computer as it is the origins of the first commercial computer game. There is an ongoing debate about what is the first computer game with Higginbottom's *Tennis for Two* (1958) played on an Oscilloscope being a popular favourite. Anecdotal evidence suggests, however, that wherever these early generation computers existed their programmers would indubitably create games on them. It is known that staff for Australia's first electronic stored program computer CSIRAC (1949) – now the only surviving Mark 1 computer in the world - created several games they could play using the few flashing lights that made up the computer's display. In his essay featured in the *Game On* catalogue Andreas Lange documents the design of the first ever games dedicated computer, Nimrod, based on the Mark 1 computer and created by Australian Engineer John Bennet, for the British company Ferranti in 1951. Visitors to the 1951 trade fairs in London and Berlin were offered the opportunity to play *Nim*, a strategy game.

[24] Not all reviewers were impressed with this decision and lambasted the lack of information framing the technology as an opportunity wasted. One scathing review from *The New Statesman* in particular addressed itself to this perceived failure by the curators. (Blincoe 2002)

exhibition is divided into thirteen sections beginning with the early arcade games, followed by a survey of influential games consoles and the games that are most strongly associated with them. The introduction to gameplay itself is through a taxonomy of gameplay and the exhibition continues with this encyclopaedic approach to videogame showcasing in turn sound design in games, games' relationship to cinema, children's games, games designed in Japan and games designed in the USA and Europe, multiplayer games, character in games, the process of game design and promotion, concluding with future games technology.[25]

This encyclopaedic approach results in a straightforward but at times contradictory curation. For example, the large dedicated display exploring game families is based on the writings of the brothers Le Diberder (1993), French anthropologists who examine different types of gameplay from problem solving to exploring complex systems. The taxonomy as used for this section in *Game On* results in three main categories of gameplay - 'Thought Games', 'Action Games' and 'Simulation Games'.[26] Each of these primary categories hosts a number of sub-groups. For example, Action Games are grouped in terms of reflex, racing, shoot-em-up, fight and platform games. Within this classification system the chronological positioning of games serves to support a further series of evolution stories. For example the evolution of adventure games spans text adventures to rich 3D graphic worlds. The 'Game Families' section of the exhibition is designed to engage audiences with an understanding that videogames offer a diverse set of challenges and gameplay styles. The broad categories offer an introduction to a set of general gameplay principles based on puzzle solving 'twitch-games' and simulating systems. The one-line introduction to each gameplay family, however, is in striking contrast to the complexity of gameplay styles and rules of play that lie

[25] See Appendix I for a summary of the 13 sections of *Game On*

[26] The classification system of the brothers Le Diberder offers three categories 'arcade', 'simulation' and 'adaptation'. *Game On*'s taxonomy is based on a broad reading of their text.

within some of these groups.[27] The classification system merely acts as a framing device as many who share a family classification are more remarkable in their difference than similarity.[28]

There are other interesting areas where the didactic framing of the sections serve to raise more questions than they answer. The section National Games Culture suggests a unique sensibility to Japanese game design, but then undermines the idea of national design styles through the profiling of games from other nations (USA, UK, Europe), which illustrate no particular sense of cultural identity. Moreover, Japanese games permeate throughout the whole exhibition and are embraced as defining works for universal categories such as genre, character and networked play, with no reference to their nationality. This is in stark contrast with the 'message' of the Japanese Culture display, that Japanese games present a separate and unique voice.

Curators can use narratives and themes to organise their displays to establish either truths or uncertainties. In an exhibition, meanings are imposed through classification and objects are grouped within conceptual frames to establish relationships between them. Historically museums were engaged in creating authorative systems of representation characterised by narratives of tradition, influence, development, evolution, source and origin. Within the space of the exhibition however, systems of representation can also be revealed and contested.

Game On presents a wide set of orthodox narratives, which on the surface offer a reassuring structure and defining logic to embrace videogames as cultural artefacts. Yet within this configuration *Game On*

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[27] Simulation featured such diverse games as *ESPN NHL25K* (Sega, 2004), *Elite* (David Brabent & David Bell, 1984), *Pilotwings* (Nintendo EAD, 1990), *Populous* (Bullfrog, 1989), *SimCity* (Maxis, 1989) and *Animal Crossing* (Nintendo EAD, 2001). Whilst their relationship to simulation is apparent the differences in actual gameplay across the field is profound.

[28] Issues with Le Diberder's classification have been raised by a number of theorists (Gonzalo Frasca, Jean Paul Lafrance) on the basis that it breaks the basic rule of taxonomy, for many games can be described as belonging to a number of categories.

also provokes questions. The structure works to both set up a legitimising discourse, but also acts as frame of reference against which the audiences can debate their own understanding. In introducing each new category its brief text panels were careful not to patronise its audience whom the curators understood as including the well-informed gamer. The objects are not simply left to speak for themselves, their relationship to the exhibition's structure and each other is negotiated though the individual experience of play.

Game On's audience is invited to play their way through the history of games and this invitation is designed to appeal primarily to the gamer as they have the required skills and it was gamers who curator Conrad Bodman states were to become the primary audience for the exhibition. This identification helped re-contextualise the exhibition from the original blend of art and design produced for the Barbican. The commissioned artwork included in the original Barbican exhibition was not featured in the touring exhibition as it had little resonance with the show's gamer audience.[29] The art commissions had originally been displayed in separate galleries at the Barbican and were described by Bodman as an adjunct to the core display of the games themselves. Their absence from the touring show was also in some part due to the unstable nature of work that featured artist code compared to the rigour of commercial software. In addition, despite being developed as an art and design exhibition for the Barbican contemporary gallery spaces, as the tour developed *Game On* was embraced more by the science museum sector that not only had the galleries to accommodate such a vast exhibition but were also less daunted by the exhibition's technological demands.[30] In this context the artwork became not only less relevant to the exhibition experience but

[29] Conversation with Conrad Bodman 05.02.09

[30] *Game On* tours with a dedicated full time technician who is not only responsible for booting up the show on a daily basis but also repairs and maintains the game's hardware. The installation of *Game On* is supervised by a team provided by the Barbican, this team travel to each exhibitions destination to set up and pack down the exhibition.

often incongruous.

Whilst embracing the gamer as its core audience *Game On* lacks any sense of the user-based cultural production that surrounds games. The exhibition presents videogames as designed objects where the gamer is framed as consumer and enthusiast. The creative ecology around games is however earnestly addressed in the catalogue for *Game On.* Like the exhibition the catalogue is ambitious in its scope. At a time when there were few available publications on the theory of videogames, it offered a comprehensive collection of essays by many respected thinkers in the area. Drawing from academia, journalism and game design the diverse voices picked up themes referenced in the exhibition and offered a more in-depth meditation upon such topics as violence in games, games and narrative, games as designed objects, independent games design and the history of computer games. The role of the gamer and the rich arena of cultural production that surrounds the playing of games features strongly in the catalogue and is represented through a distinct series of voices. These include: girl gamers and cross cultural gamers, the appeal of multiplayer, a discussion on emergent play in online worlds, a history of machinima and an exploration of how game design can foster player creativity.

4.3 Gameworld

The original *Game On* catalogue is unconventional in that it offers no reference to the work on display in the exhibition.[31] There is no list of games provided, not even a breakdown of the sections and their key narratives. It is a stand-alone text that supports the exhibition's ambition to acknowledge the history of videogames, its cultural significance and impact. Like the exhibition itself it is a foundation text for establishing a

[31] The ACMI *Game On* catalogue (2007) included a new introduction by H. Stuckey framing the exhibition narratives.

discourse around videogames as cultural artefacts. *Gameworld* in contrast presents a more conventional catalogue of short essays combined with a bound booklet of cards. The cards are conceived as a collectible set and recall both a souvenir book of postcards and a game pack of cards whose contesting suits are the exhibition's thematic clusters. This twin catalogue offering is, however, just the first iteration and the *Gameworld* catalogue was reprinted again in 2008 as part of the more substantial publication *Homo Ludens Ludens,* a large format hardcover book that celebrates the three dedicated game culture exhibitions that LABoral produced between 2007 and 2008 - *Gameworld*, *Playware* and *Homo Ludens Ludens* -together with a major international symposium.

The LABoral Arts and Industry Centre is an example of a relatively recent trend in city regeneration based on the conversion of large industrial buildings into new arts and cultural precincts.[32] In the face of a shrinking manufacturing industry and its impact on related industries such as the port district of Gijon, the city seeks revitalisation through culture and tourism. LABoral has chosen to engage with its industrial origins and in its mission identifies itself as dedicated to new technology and the discourse between artists, scientists and industry. In the introduction to *Gameworld,* the centre's President speaks of the importance of the centre in developing new audiences for art – with LABoral's focus being on a blend of education, production and research.

LABoral's trilogy of videogame exhibitions, *Gameworld* (2007) *Playware* (2007-08) and *Homo Ludens Ludens* (2008) was, according to its Director Rosina Gómez-Baeza, explicitly designed to explore intersections between "art and industry and the social transformations generated by new visual culture". (Baeza 2008, p. 13) LABoral, she states, is not

[32] Whilst the idea that founding a museum can serve to transform a community has been traced back (in the UK) to the establishment of the Tate Gallery in the old Milbank Prison site in 1897, the investigation of 'urban regeneration' through establishing cultural institutions did not become prevalent as a western trend till the 1980s. (Barker 1990, p. 179)

concerned with making claims for videogames' status as an 'art-form' but rather was engaged with 'videogames as a social development'. In the introduction to *Gameworld* Gómez-Baeza celebrates the interdisciplinary nature of the work and its ability to speak to the wider field of digital culture in contemporary society. Videogames, as the first native digital medium, are identified as the ideal subject for exploring the potential of this arena. LABoral is engaged in rethinking the museum's relationship to the city less in terms of preservation but regeneration. In this context videogames, as a commercial and critically successful creative industry, have apparent appeal. Videogames are sites of creative production and consumption intrinsically linked to and in part driving technological development both off and online.

Gameworld's curatorial premise offers no clear roadmap and no grand narrative path to follow. The title *Gameworld: Videogames on the edge of art, technology and culture* was designed to evoke a series of interrelated worlds. Curator Carl Goodman explains these in terms of 'games as rules systems', 'the creative ecology around games' and 'games impact on contemporary culture', including the idea of 'virtual worlds'. (Goodman 2007, p. 44) Within the exhibition the work is grouped under sets or clusters and as the 'pack of cards' catalogue suggests, they can be viewed in any order as if the pack had been shuffled. These narrative clusters are comprised of 'Digital Games Canon', 'Experimental Games', 'Games and Research', 'Serious Games', 'Games Recoded' and 'World Games'.

'Digital Games Canon' is a selection of ten games of significance to the history of games design. The list was created by a group of games designers and historians at the instigation of Professor Henry Lowood, curator of the History of Science and Technology Collection at Stanford University. It is not meant to be definitive, but was developed as part of a strategic action to draw attention to the need to preserve videogames by

nominating them to the American Library of Congress. The exhibition of the 'Digital Games Canon' offers audiences ten playable games, each with their own integrity as a designed object. It also provokes a series of questions. Do videogames need a canon and if so what should it represent? How do we preserve digital artefacts? Whose role is it to preserve videogames? How do we preserve and document gameplay as distinct from software? The work when framed as a 'canon' in the gallery becomes not just ten interesting games on display but provoked important questions about the design, history and preservation of videogames.

The second cluster 'Games Recoded' is a group of eleven works by artists reworking games code or reconfiguring games. These works intervene into the structure of games themselves, exposing their algorithmic nature, such Brent Gustafson's *BX* (2005) and John Leandre's *Retroyou R/C 1999 Series* (1999). Others are examples of hacking or modding the code to subvert the user's relationships with the game space, such as Mary Flanagan's *Domestic* (2003), Friedrich Kircschner's *Anisandbox* (2007) and Cory Archangel & Paper Rads *Super Mario Movie* (2005). Included also are works that offer re-engineered experiences such as the tennis games of Niklas Roy (*Pongmechanik*, 2004) and Dirk Eijbout (*TFT Tennis* 2005), Fur Collectives' pinball first person shooter *Furmintor* (2005) and Douglas Eric Stanley's *Invaders* (2001). A response to September 11, *Invaders,* was originally projected on to the Marseilles World Trade Centre. The cities citizens tried to defend the building from the projected hoard of space invaders using household torches and other domestic light sources.

'Games Recoded' focuses on the reworking of historic videogames. With this work there is an assumption that the audience is familiar with the language and iconography of games. The work explores diverse themes from the construction and perception of Cartesian space to the mechanics and haptics of gameplay. Due to the mutable nature of code

the games themselves become reconstituted and their original natures subverted. The works pose questions about how we interact with and perceive games and how we engage with the algorithmic nature of the digital realm.

The notion of videogames as sites for production is further explored in the works of machinima (films made using games engines) that form another section of the 'Games Recoded' exhibition. These include Eddo Stern's *Sheik Attack* (1999), an examination of the Israel Palestine war, filmed using games of war and settlement which the artist has dubbed a 'non-fiction horror film'; Peggy Ahwesh's *She Puppet* (2001) a feminist critique of the popularity of the busty female avatar; Chris Burke's *This Spartan Life* (2005-7), a talk show set in the Xbox Live multiplayer game *Halo,* where the guests are vulnerable to the violent incursions of other *Halo* players who are unaware that their game space has been colonised by a chat show.

Subsequent clusters, 'Experimental Gameplay', 'Games Research' and 'Serious Games' represent the new territories that videogames are engaged in exploring. They offered a showcase of what videogames might become. They investigated the complexity of the experiences videogames are able to offer, the critical observations videogames are able be present and the persuasive rhetoric that interactive gameplay can support. They were characterised by a mix of commercial games, artist work and independent games and illustrated how these categories are themselves blurred. *Façade* (2005) and *Once More with Feeling* (2007) are experiments with the emotional engineering of artificial intelligence exposing the potential of videogames technology to create complex interactions with players and investigate complicated human issues. Whilst these were both categorised as research, Jenova Chen's work *FlOw* was identified as 'Experimental Gameplay'. *FlOw* is an exploration of the psychological state of 'flow' the games design offering a mix of research

and experimentation. Despite its academic origins as Chen's Masters project, it is now available as a commercial game. Other experimental works such as Julian Oliver's *2nd Person Shooter* (2006-2007) are purely intellectual in their ambitions. In *2nd Person Shooter* the rules of the game override the rules of nature to create a totally disorientating sense of disembodiment, critically reflecting on how the spatial syntax of game space relates to vision and a sense of physical embodiment.

'Serious Games' were represented as editorial, pedagogic and as offering a new realm for discursive documentary. These ranged from Ian Bogost's 'News Games', short play games that offer reflection on world events to *Bordergames* (2005-2007), which was both a videogame and series of workshops set in real and virtual space. *Bordergames* workshops were designed to empower disenfranchised Moroccan youth of Madrid and the game, in placing the player in the shoes of these young immigrants, reveals the un-winnable game they play daily on the streets of Madrid. Also in the mix was the work of gamer and bedroom producer Danny Ledonne who's highly controversial *Super Columbine Massacre* (2006) made with the free downloadable role-playing software RPG Maker, is an attempt to develop a style of critical documentary as gameplay. In contrast the mod *Civilization IV – Age of Empires* (2004 – 2006), replaced games designer Sid Meier's historic empires in *Civilization III* (Firaxis Games, 2001) with global media and technology conglomerates to represent how these organisations have replaced the nation state as the locus of power in contemporary society.

The final cluster, 'World / Game' addressed the way that the iconography of games, the grammar of gameplay and the identity of the gamer are now woven into everyday life. It explored the perceptions and assumptions that surround game culture and what it might mean to rupture 'games magic circle'. It also asks what it means to occupy virtual space. For his work *Dead in Iraq* (2006-) Joseph Delappe logs on to the popular PC network

game *America's Army* (U.S Army, 2002-) and, under the username 'dead-in-iraq' proceeds to laboriously type into game chat the names of the US soldiers who have died in the war till he is 'killed' by another player. His demise is normally swift as despite the free online game being the US Army's most successful marketing tool, its players do not wish to be confronted by the reality of war. The shock value of *Boys in the Hood* (2006) is the veracity of its stories of violence and carnage through interviews that document the in-game experience of *Grand Theft Auto* players. In *WOW* (2007) a crowd wanders around an ordinary German town with their names suspended over their heads, a normative feature within the virtual space of *World of Warcraft*. John Haddock's *Screenshots* (2001) is a disquieting series of images that depict iconic media events drawn in the isometric style of the early nineties videogame. These strange images offer a disorientating perspective on some of the defining moments of 20th century media culture.

4.4 Display on Display

From this previous account we can see that in *Gameworld* the work of artists, researchers, academics, modders, hackers and bedroom-producers harmoniously co-exist in the gallery together. In many cases designers are artists and artists are hackers, academics are designers and designers are researchers. Sites of production and modes of production are challenged, the digital becomes mechanical in *///Furminators* (2005) pinball first person shooter and the virtual becomes real in *WOW* and *Boys in the Hood*. The unstable categories of *Gameworld* and the catalogue's invitation to 'shuffle' the groups are complemented by the exhibition design, which resembles the layout of a pinball machine. The audience is encouraged to ricochet around the space encountering works juxtaposed to create chance encounters of meaning. It can be surmised that the exhibition is conceived so that its narrative clusters work to reveal difference rather than fortify unifying principles. The exhibition overall

operates as a space were the value of interpretation is contested.

This curatorial stance has resonance with Michael Foucault's concept of a heterotopic space. A heterotopia is a site of 'otherness', the existence of which "sets up unsettling juxtaposition of incommensurate 'objects' which challenge the way we think, especially the way our thinking is ordered." (Hetherington 1997).[33] The heterotopic space is a space of illusion that exposes the operation of the real space. Heterotopic spaces are spaces that reveal that there is a process of representation (Hetherington 1997, Law 1994). Exhibitions are all about ordering objects in space to create meaningful relationships. Rather than creating a unifying narrative *Gameworld* offers fragments of a number of possibilities. It's an exhibition that puts on display how the digital has blurred sites of consumption and production, challenged the delineation of areas of expertise and questioned the division between the real and the virtual. Foucault describes the effect of the heterotopic space:

> *Heterotopias* are disturbing, probably because they secretly undermine language, because they make it impossible to name this *and* that, because they shatter or tangle common names, because they destroy "syntax" in advance, and no only the syntax with which we construct sentences but also the less apparent syntax, which causes words and things… to "hold together". (Foucault 1973, p. xviii)

Heterotopias put the act of display on display. At LABoral audiences first viewed *Gameworld* from above, where the design by Lesser Architects was itself revealed as a giant game space into which they would descend. It was a space that suggests play rather than ordered structure. Exhibitions, in presenting objects according to declared conceptual

[33] Foucault's sense of the heterotopic space as a place of illusion that exposes the real space as more illusionary is explored by writers such as McKenzie Wark (*Gamer Theory*, 2007) and Alex Galloway (*Gaming: Essays on Algorithmic Culture*, 2006) who embrace the perfect and meticulous control of the game-space as the ideal space where 'reality' is messy, ill conceived and jumbled.

schemes of classification and categorization, put the 'order of things' on display. Through revealing that systems of representation can be shifting, contingent and contestable audiences can be empowered. *Gameworld* is an exhibition that encourages the visitor to consider how objects might be interpreted, inviting them to consider how they might relate to differing conceptual schemes. This curatorial approach can offer a playful sense of seduction and negotiation with audiences. (Lord 2006, p. 84)

Producing an exhibition that opens up questions of contemporary practice in the digital age is in alignment with LABoral's mission to work with 'the latest trends of art creation partaking with new technologies' and how this can be aligned with creative industries. (Guillén Barba 2007, p. 39) LABoral launched with three exhibitions focused on the digital realm *Feedback* (new media art) *Gameworld* (videogames) and *LABcyberspaces* (virtual worlds). In addition to these exhibitions addressing the digital arts there was an exhibition of the young local artists of the Asturia region and a comprehensive series of workshops, seminars and laboratories. *Gameworld*'s heterotopic approach to provoking questions of interdisciplinary practice and sites of production appears to be aligned with LABoral's act of defining itself as a Centre for Art and the Creative Industries in the twenty-first century. It is part of a greater discourse that the Centre is engaged in with respect to rethinking the museum and creating dialogue between contemporary art and the new creative industries.

4.5 Final Play

It is significant that both *Game On* and *Gameworld* were conceived as exhibitions that reached beyond the conventions of existing contemporary art exhibitions, in order to explore territories designed to draw new and different audiences to the gallery. *Game On* was not marketed as an art exhibition but the 'story of videogames'; a family show

for some, a nostalgia trip for others. Its appeal was the opportunity to play games, some old, some rare, some unreleased, as well as get a glimpse into the making of games that is seldom presented outside specialised media. It was an exhibition that resonated with a core audience of gamers who, previously untapped by the museum sector, were revealed to be a sizable demographic. When it opened at the Barbican *Game On* included a series of art works designed to expose the social and material condition of games production and reception. This adjunct and abstracted commentary failed to communicate with the exhibition's core audience of gamers, many of whom are 'contemporary connoisseurs' actively engaged in the critical culture that surrounds videogames. *Game On*'s structure and key narratives build around games' technology evolution, the 'perpetual innovation economy' that has most strongly defined the medium. In the exhibition this operates as a grand narrative of progress and one that is most familiar to its gamer audience. In this sense *Game On* presents a traditional modernist narrative of past preserved and a future projected.

Gameworld, in addressing the idea of the future of art and the creative industries, challenged both audiences for contemporary art and videogames. Its design and marketing targeted both worlds. Its mix of works was drawn from the experimental practise of both art and industry, positioning it both as research and development and as critical culture. Its narrative clusters appear designed to juxtapose ideas and themes and provoke questions on the very nature of videogames and our relationships with them. The art works here were not offered as adjunct as in *Game On,* but inter-meshed in the hybrid discourse. The artist is not outside the world of games looking in but the gamer-artist meshed in the culture of games, for whom the iconography and technologies of videogames are both subject and tools. The exhibition included the gamer as producer and in displaying works such as the controversial *Columbine Massacre RPG* made a statement that it took seriously the experiments and creative

contribution of this sector. It presents videogames as designed objects and artefacts for preservation as personified by the ‘Games Canon’ but also as re-mediated works in ‘Games Recoded’. The exhibition identifies videogames as sites of experimentation research and place. The power of *Gameworld* as a heterotopic exhibition is in the interpretations it provokes not because of the categories of difference it offers but the way it explores the slippage between them. In its mix of works it challenges understandings of what videogames are and the contribution of videogames to contemporary aesthetics.

5. Rules of Play – Challenges for Display

In his introduction to the 2007 exhibition *Playware – A Gameworld Expansion Pack,* curator Carl Goodman explains, "while the earlier *Gameworld* exhibition adopted a narrative approach to the topic of games and art, *Playware* takes a ludic approach". The statement is accompanied by an explanation that in his role as Deputy Director at the New York Museum of the Moving Image, they have taken special care not to interpret games as an extension of storytelling media such as film and television. Rather than narrative, the focus was on videogames' "ludic attributes, i.e. the underlying rules, behaviours and interactions that define a game as system and the kinaesthetic experiences of playing the game". (Goodman 2008, p. 438)

The opposing categories of Goodman's statement can be linked back to the birth of videogames studies, which was marked by a fierce battle between the ludologists and the narratologists.[34] The ludologists argued that the study of games required its own theories and observations based on the structures and experiences of gameplay and that it was important to avoid collapsing games studies into traditional narrative-based readings. Ludology does, however, ask questions that inevitably draw on other fields on inquiry. Jesper Juuls asks, for instance, "How are games developed? What are games rules and how are they made? What does a game mean? What emotions do players experience? How do players understand games?" (Juuls 2009, p. 365)

Whereas the earlier chapters investigated a group of influential exhibitions of videogames and examined their key narratives, this chapter examines some critical understanding of what videogames are and how

[34] This heated debate, predominantly initiated by 'team ludology', is now generally characterised as an academic turf war designed to ensure that the competing departments of the university engaged in game studies received recognition. All parties quickly moved to a more consolatory discussion.

they might be appreciated and experienced. It looks at methodologies for examining videogames and asks how knowledge about videogames can be presented in the gallery. Ludology is essentially the study of play, a tactic that is not foreign to the gallery. Take, for example, the Dada artists at the beginning of the 20th century, or the 1965 'Manifesto on Art Amusements' by Fluxus, and let us not forget Marcel Duchamp, whose dedication to play was such that he eventually chose to abandon art to play chess. (Baigorri 2008; Pearce 2006).

The exhibition of videogames in the gallery raises a series of significant questions: What are the expectations of audiences for games? How much should questions of player skill be taken into consideration when selecting work for display? How much should a work's cultural reception be profiled in relation to the designed object? These questions will be addressed in turn in this chapter. First the methodologies used by academics will be examined. These will then be related to selected examples of how these concepts can inform curatorial practice.

When situating games in the gallery or the museum, they are read through the context of those institutions. Shown as contemporary art, they are examined for their aesthetics and cultural engagement. If they are displayed within a science museum, there is tendency to examine them as technological artefacts. When displayed in the context of galleries dedicated to the moving image, videogames are frequently seen through the lens of cinema, framed by knowledge of cinematic conventions. With the dominance of the pervasive narratives of 'storytelling' and 'science', the challenge for the curator is how to move beyond considering games as extensions of film or as benchmarks in the evolution of computer technology.

5.1 Interactivity

Interactivity is a defining feature of videogames. It is, however, not

a simple concept. Eric Zimmerman offers it up as a slippery term with multivalent meanings and describes the following four categories, designed to show how open the term is for interpretation. The role of the reader/player in prescribing meaning is deemed ‘cognitive interactivity’, which he describes as the “psychological, intellectual and emotional participation with a ‘text’”. A second category is ‘Functional or material interactivity’, which relates directly to the object’s materiality and haptics. For example: Is a game controller easy to handle? How many buttons does it have? Is the onscreen text clear to read? A third category describes the defining relationship with the game’s software as ‘designed choice interactivity and game-like interactivity‘ - those processes and simulations affected through the game’s cybernetic loop with the player. And a final and rather elusive category is ‘outside-the-text-interactivity’, the world of meaning beyond the game. This includes an ongoing discourse build around shared information about the game and the experience s of it and including personal narrative and the creative possibilities of emergent play posted in forums and other spaces and practices such as modding, machinima, fan art, fan fiction and fan games. For Zimmerman, there is no real separation of these modes of interactivity, with many taking place simultaneously in a single gameplay encounter where most interactive experiences are co-dependent. (Zimmerman 2003, p. 14)

Media theorist Alexander Galloway is so anxious about the associations of the idea of ‘interactivity’ with the ‘active audiences’ theory of media when discussing videogames, that he takes pains to avoid the term at all. Instead he replaces it with the term ‘active medium’ from cybernetic theory, denoting a medium “whose very materiality moves and restructures itself”. (Galloway 2006, p. 3) Galloway’s ‘active medium’ reduces the relationship down to the interaction between the player and the game’s algorithms, whilst Zimmerman’s multivalent concept of interactivity encompasses a broad range of activities including

relationships with other players both in game and beyond. Both readings are valuable to the curator in thinking about communicating the complexity of interactivity and both create challenges for display. The calculations and rule systems of the videogame are rarely transparent, increasingly obscured behind rich graphics and audio. How do you draw attention to these cybernetic relationships? The breadth and multivalent nature of 'outside-the-text-interactivity' poses a differing set of challenges in displaying the rich interactions of gamer networks beyond the designed object itself.

5.2 Elements of Videogame Analysis

Media theorist Espen Aarseth, in seeking a methodological approach to how games are studied and interpreted, quickly concludes that there can be no singular approach to the study of games. He reflects on the work of Lars Konzack, who offers the following framework, comprised of seven key areas, for analysing games:

> hardware, program code, functionality, game play, meaning, referentiality, and socio-culture. Each of these layers may be analysed individually, but an entire analysis of any computer game must be analysed from every angle. Thereby we are analysing both technical, aesthetic and socio-cultural perspectives. (Aarseth 2003, p. 2)

Konzack's seven layers, like Zimmerman's breakdown of 'interactivity', serves to underline the complexity of videogames as the subject of aesthetic analysis. Kozack's layers offer no hierarchy for the differing elements and, like Zimmerman's they cannot be simply isolated from each other. Konzack's three broad categories – the technical, the aesthetic and the socio-cultural - offer a fundamental framework for understanding the differing narrative approaches to displaying and interpreting videogames. Many other theorists use a three-point approach

in defining the interpretative framework for discussing and understanding games.

Aarseth offers three different research perspectives for analysing games:

- Gameplay (sociological, ethnological etc);
- Game-rules (games design, AI etc), and ;
- Games World (art, aesthetics, history, cultural studies etc). (Aarseth 2003, p. 3)

Zimmerman and Salen offer the following key criteria for game design and interpretation:

- Rules (the organisation of the designed system);
- Play (the human experience of that system), and ;
- Culture (the larger contexts engaged with and inhabited by that system). (Salen & Zimmerman 2004, p. 6)

Newman operating from the perspective of a player-culture-centric reading presents his three governing perspectives:

- videogames as representational systems;
- videogames as configurative performances, and;
- videogames as technology. (Newman 2008, p. 16)

These definitions consistently touch on three major thematic structures; games as rule-based systems (including their hardware and software components), games as cultural creations and games as sites of play. For the curator, these can offer useful ways to frame information within an exhibition, allowing for interesting pathways for the discussion of the games as cultural artefacts, their design and reception.

5.3 Game Rules

The profiling of rule-based systems requires the disclosure of game mechanics, drawing attention to the detailed design of the gameplay. Here, the challenge for curators is a lack of familiarity with the language of

game design. Even game reviews are often more focused on graphics innovation and back-story, rather than what the player is actually doing, minute-by-minute, within the game. To highlight the videogame's rule systems, the curator needs to direct the audience to look beyond the 'fun', to the set of meaningful choices that the game is offering them. Many art games address themselves to exploring the underlying rules and behaviours of games systems. The formalist interventions of JODI and Joan Leandre's *Retroyuo R/C, 1999 Series* (1999), as well as the cognitive experiments of Julian Oliver's *2nd Person Shooter* (2006 – 2007), or Eddo Stern's *Darkgame* (2007) are examples. To promote reflection on gameplay mechanics themselves curators may consider presenting works that feature similar gameplay for contemplation. Juxtaposing two videogames such as *Robotron 2084* (Eugene Jarvis & Larry Demar, 1982) and *Smash TV* (Eugene Jarvis & Mark Turmell, 1990), both of which feature game play that is dependant on a variation of a swarm mechanic, is one means of highlighting a particular Artificial Intelligence and its resulting gameplay. That these two games share little in terms of style and graphics is a curatorial tactic aimed to draw attention to the shared game mechanic.

Early arcade games, with their simple gameplay, readily offer up their rule sets. The celebrated success story of *Pong* (Al Alcorn, 1972) was built on its famous single line instruction taken from a pinball machine 'Avoid missing ball for high score'. The home computer games of the late 80s and early 90s often came with lengthy manuals that were dutifully studied before play commenced. Today, most games use a series of in-game tutorials to gradually skill the player up. These introduce the principle skills that players need progressively, taking the player through a sequence of game mechanics that are subsequently combined to create more challenging gameplay. Most action/adventure single player console games offer between 20-40 hours of gameplay with the in-game tutorials

incrementally building the players skill as they progress.

5.4 Gameplay & Literacy

'Gameplay', 'play' and 'configured performance', is dependant on the interactive audience – i.e. they are not just active as meaning-makers, but engage performatively. Whilst knowledge of games can be acquired second-hand -- through study of games systems, through observing others playing and through reading about gameplay experiences -- playing the game is surely the best starting point for understanding the work. Aarseth explains that observing play offers only part of the story. The mental interpretation and exploration of the rules that occur for the player are invisible to the observer. He concludes that, unlike films and literature, merely observing the action does not put you in the role of audience. (Aarseth 2003, p. 3)

Videogames demand that their audiences have the ability to navigate the space of the game. This may require a combination of skills based on 'twitch' (speed and accuracy), problem solving and strategy. Audiences need to master an interface and decode the game's rule systems and symbols to actively engage with the work. Aarseth describes the player's relationship with the game's cybernetic (feedback) loop as non-trivial, meaning that the player's actions and reactions are essential for the 'viewing' of games. (Aarseth 1997, pp. 1-5)

Curators are dedicated to producing displays that effectively communicate and offer audiences pathways to appreciate and engage with the work on display. The literacy barrier for games is the skills required to actually engage with the interface and play the game. Before encountering any interpretative challenges, the visitors must have appropriate skills to take on the work itself. As Markku Eskelinen has pointed out, "in art we might have to configure in order to be able to interpret whereas in games we have to interpret in order to be able to

configure." (Eskelinen 2001) French sociologist Pierre Bourdieu's study of culture-mediated power relations exposed the role of the museum as being in the service of the bourgeois value of taste. Bourdieu observed that the museum demands a level of literacy from its audiences that serves to reinforce the feeling of belonging for members of this class and the feeling of exclusion for others. (Bourdieu 1984) Playable games in the gallery also create a division based on literacy, but not along the lines that Bourdieu considered. The popularity of ACMI's Games Lab with non-traditional museum audiences including adolescents and young men, for example, is an indicator of the importance of specific literacies. Access to the videogames on display required both a level of competency with the games interfaces and the ability to decode the signs and symbols that are part of the language of games. For those generations raised with videogames both the vocabulary of games as they direct the player through the interactions with the system and the relationship with the controller are familiar. To the uninitiated they are opaque, excluding or discouraging their engagement with the work on display.

If the ability to play is essential for traversing the game 'text', how well do we expect audiences to be able to play to appreciate the work on display? This is one the greatest challenges with displaying games. Once you move past the era of the early arcade games, where most game interfaces are easily understood, players are almost inevitably faced with learning complex rule systems and the demands of mastering the game's interface. As with the act of reading, any real aesthetic pleasure is delayed until a minimum level of competency is reached. Some audiences may be uncomfortable with the challenges of performing publicly in the gallery, particularly skills-based interaction.[35] And even if the visitor can successfully traverse the game, is their skills level sufficient to allow any

[35] These are similar issues to those faced by interactive art. Interactive art, despite its arrival in the gallery in the middle of last century, is still subject to a palpable fear of the demands it places on visitors to respond appropriately. Here too a level of literacy is a key to the appreciation of the work.

real insight?

How much should questions of skill be taken into consideration when selecting work for display? *Game On* successfully combined traditional didactic signage and narrative pathways within a frenetic arena of gameplay. Visitors were not compelled to play to get a sense of the focused engagement, collaboration and movement in space that the games demanded of their players. However *Game On,* with its one hundred and twenty plus playable games, quickly defined itself as a gamer exhibition, offering the hands-on experiences this audience sought. ACMI's Games Lab provided non-player content such as game-capture, projected play and didactic text to ensure that those visitors reluctant to engage with the games themselves were presented with alternative ways to engage with the exhibition's themes and ideas. This provision carried with it the possibility that they would be engaged enough by what they saw to be tempted to play. Games Lab took advantage of the museum's capacity to offer audiences experiential opportunities outside their normal contexts.

5.5 Gameplay and Game World

Videogames, whilst designed with a set of internal meanings, also traffic with meaning from outside. The cultural appreciation of videogames does not rest purely with the designed game's formal structures and mechanisms, but also how they can be transformed by individual play, by re-use and modification; with what happens to them and what can be made with them (machinima, mods, maps, fan-art etc). Constance Steinkuehler speaks of the need to understand games through the recognition of the difference between the big 'G' game, the designed game and the individual player's experience of the game– the little 'g' game. (Steinkuelhler 2006) There is not just variation in how players play, but also with whom they play with and why they play; all factors that radically transform the play experience. In addition, the game does not

stop at the artefact (the game product), but can bleed out into other social platforms such as web forums, machinima and cosplay.

Gameplay, according to Zimmerman, is the human effect of rules set in motion. (Zimmermam 2009, p. 26) However, whilst the rule system may be fixed, play within them may be fluid and loose, exploratory and transgressive, supporting social interactions and personal experimentation. Videogames offer both play *within* the structure and play *despite* the structure. Even when a game is played by an individual apparently in isolation, that solo play is located within a community-generated set of meanings, readings and interpretations. This is the collective knowledge of players, critics and fans alike who contribute to a very public understanding and evaluation of the game through public performance, reading, reviews and previews. (Newman 2008, p. 12)

There are an increasing number of videogames, such as Massive Multiplayer Online (MMO) games, where an understanding of the designed object cannot be separated from the ethnological activities of its community of players and the game's own ecology and social history. Simply making an MMO available to play in the gallery will fail to exhibit the work in a meaningful sense. The audience has no access to the broader community structure and the game's long-term goals such as joining guilds and running raids, but only to the basic short-term levelling-up mechanics.

Part of the challenge for games curators is how to profile the played elements of the game and those of playing with the game. How, in exhibiting games, can we identify and display the cultural production that surrounds games? How important are these relationships for understanding videogames? How much consideration should this material be given in the context of displaying the designed object?

Two works were commissioned by the Australian Centre of the Moving for the exhibition *Game On* in 2007 to communicate the idea of the MMO in the gallery space. The first, a compilation video of the history of online worlds, was commissioned from Stanford University's Internet Archives. It documented their genesis in text-based MUDs (Multi User Dungeons/Dimensions) in the late 1970s through to the massively popular online game *World of Warcraft* (Blizzard, 2004-ongoing). Composed of a rare collection of still images and screen-capture, the piece included extraordinary highlights such as the in-game assassination within *Ultima Online* (Origin Systems, 1997) of game creator Richard Garriott's avatar Lord British. The work illustrated that the history of online worlds dates back to the arrival of the Internet and that, way before *Second Life* (Linden Labs, 2003-ongoing), the citizens of *Habitat* (Lucas Film,1986) were socialising online as little avatars. Richard Bartley *MUD1* (1978) revealed that one of the earliest impulses for visitors to virtual worlds (at this time purely text-driven) was to play games. Like many game works, *The History of Virtual Worlds* was a piece that polarised audiences, richly rewarding those whose knowledge allowed them to understand the treasure house of riches on display and perplexing those who, even with the guidance of the didactic text, saw nothing but random fragments of text and a parade of old school avatars.

The second work, *Best… Flame War… Ever… [King of Bards vs. Squire Rex, June 2004]* (2007), was by artist Eddo Stern, whose recent work focuses on the culture and aesthetics of MMOs. Both amusing and poignant, the work clearly illustrated the complexity of relationships in online worlds. *Best… Flame War… Ever…* is a linear video work documenting a flame war (heated exchange of text messages via in-game chat) between two players of *Everquest*. To perform this flame war, Stern has created animated heads inspired by the work of 16th century Italian artist Giuseppe Arcimboldo and composed of the icons, images and

character designs from *Everquest*, *World of Warcraf*t and other MMOs. The monstrous heads converse in monotones narrating the wrath of these two strangers locked in conflict over the how the rules in *Everquest* apply to them. They berate each other, discussing rules, technicalities and other specific points of contention about the game in a dialogue that ranges across both their real and virtual lives before they finally find accord. It is a story of conflict and redemption that exposes both the complexity of the ecology of the MMO, the diversity of its occupants and the passion of its players. In fourteen minutes it offers audiences a great depth of understanding about MMO communities and the rules that govern them.

Gamers have had the opportunity to develop a more intimate relationship with the commercial product than previous screen media have afforded. This has been possible through a combination of the mutable nature of software and all-important synergies between videogames, home computing and the communal information sharing supported by the Internet. From the earliest days of the home computer, where players had to directly type in the game code to load games, players have had an intimate relationship with the stuff of games.

And whilst it may be a minority of gamers who actively engage in the creation of mods and machinima, most gamers participate in the influential discourse that surrounds games. There would be few gamers who have never viewed a walkthrough or a hints page, for example. Media archaeologist Errki Huhtamo observes; “Games have never been distant in the same sense as traditional broadcast media such as television; they became known as a form of pastime, essentially as technological toys.” Our “contact with games has been tactile, familiar, informal.” (Huhtamo 1999, p. 333)

It is obvious, then, that museums must consider more than games’ ludic and aesthetic qualities when exhibiting them. To provide a full

picture of games' meanings and possibilities, they must also display the stories that videogames allow players to tell and the creative ecology that erupts around them. For many videogames, in particular multiplayer and virtual world games, the traditional museum practise of displaying the designed object or artefact (even as playable object) may not offer a meaningful encounter for audiences. The role of the curator is to explore the possible ways that discussion of the cultural production that surrounds videogames can be represented within the gallery. The use of critical art works (that are themselves part of the wider creative culture of games) has been utilised by many exhibitions including ACMI's iteration of *Game On* and *Gameworld*. For example works such as Eddo Stern's *Best…Flame…War…Ever*, Chris Burke's *This Spartan Life* and Friedrich Kirschner's *Anaisandbox* (2007) offer audiences richer experiences of the creative possibilities of their source games and provide a sense of the potential of the game space then logging on to these games in a gallery could achieve. Documentation and game capture also provides rich opportunities for representing the transformations of the game by the gamer. Gamers create their own galleries of game-capture and machinima that can be artfully deployed by the curator to provide insight into the complexity of game worlds.

Anne-Marie Schleiner demands that artists and curators look to the creative practises of gamers for insight into understanding contemporary media culture. To represent videogames in the twenty-first century it is becoming increasing apparent that the curator must look beyond the designed object and address the cultural production that surrounds games. The role of the curator now extends beyond the idea of an 'art of videogames' as framed exclusively through traditional ideas of the design object which characterised *Game On* at its inception. In seeking a fuller understanding of videogames as cultural objects the curator must embrace the broader cultural activities of videogames' communities of players. This

territory offers the curator possibilities for representing elements of the played gamed and acts of re-mediation, of the playing with the game that is characteristic of contemporary media practice.

6. There is intelligent life out there

Historically the civil centres of knowledge and learning, the museum and gallery are embodiments of a culture's intellectual capital. Despite the explosion of game studies in academia, the knowledge and the history of videogames is largely held by fans. This knowledge underpins much academic work and some is indeed the work of the new breed of fan/academic. It is dispersed across the Internet on fan sites and wikis. Until recently, the preservation and documentation of games has largely been the work of dedicated gamers. It is the fans that have archived the software, captured gameplay and documented cultural reception. They also created new kinds of online 'institutions' dedicated to collecting and preserving the history of videogames long before these gained wider cultural appreciation.

6.1 Sonic the Hedgehog

Sonic the Hedgehog is an icon of videogame culture. The original *Sonic* game of 1992 *Sonic the Hedgehog* (Sonic Team, 1992) was a masterpiece of game design. Lead designer Yuji Naka and the *Sonic* Team worked on creating a mascot for the new Sega Mega System that could go head-to-head with Mario in the console war then raging between Sega and Nintendo.[36] They developed a game and character that personified what was special about Sega's console technology and that was speed. The faster processing power on the Mega System left Nintendo and Mario in the dust. *Sonic'*s level design was all about a need for speed. Sonic's rolling attacks did not require the player to slow down and his cheeky personality had him tapping his foot impatiently if the player kept him waiting. He was a small blue revolution in game design and became more recognisable

[36] The popularity of Nintendo's *Super Mario Bros* (Nintendo 1990) had made the character Mario created by Shigeru Miyamoto the mascot for the Nintendo Entertainment System.

than Mickey Mouse to a generation of children. Sonic has remained a sentimental favourite for game fans everywhere.

During the development of an exhibition about *Sonic the Hedgehog* for ACMI Games Lab in 2004 it was revealed that, although Sega were highly protective of their intellectual property and brand identity, they were not the true keepers of *Sonic*'s legacy.[37] It was the online fan communities who kept the flame burning for the spiky blue hedgehog. In seeking information about the history of the *Sonic* games and knowledge about the detailed relationships of the *Sonic* world (despite access to Sega Japan and Sega Europe) it became apparent that *Sonic's* real history was held by the fans. Without direct access to designer Yuji Naka and the original *Sonic* Team, the story of *Sonic* and the historic traces of the game's creation and reception were all provided through the game's fan communities.

Sonic fans are a passionate bunch and, at the time of ACMI conducting research into the '*Sonic*-verse', dedicated *Sonic* websites were so numerous that a fan-created website award existed for their ranking. In addition to the plethora of sites dedicated to discussing the games, there were sites for fan-art, fan-fiction, fan-animations, fan-comics and fan-games. There were also three digital-radio stations dedicated to streaming *Sonic* tunes and music mash-ups. ACMI worked closely with a number of the more respected English language *Sonic* fan sites, *Green Hill Zone*, *Sonic Stadium* and *Sonic HQ.* Information on these sites is created by fans but also reviewed by hundreds of other passionate devotees, ensuring that few errors survive in the final text. Its composition and editing is by a collective of highly invested 'owners', all competitively keen to prove their superior knowledge on the subject.

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[37] Knowledge acquired from curatorial duties for exhibition *Sonic the Hedgehog: Icon of our Times* whilst in my role as ACMI Games Lab Curator 2005 – 2009.

The fan sites provide a wealth of valuable information that could not be accessed elsewhere. In addition to information on the videogames and their gameplay, the *Sonic* Fan sites provide information of *Sonic* releases internationally, including some games that never received release outside Japan and others that never got beyond prototype. Unusual and hard to come by information is prized in the fan community as valuable rare objects. In an active fan community, such arcane knowledge is carefully checked to ensure its veracity; offering fake information is seen as a form of cheating, of trading with false currency within the fan economy. The fan communities also define what a *Sonic* game is. *Sonic* games are not simply any game that features the *Sonic*-verse and are published by Sega. Only those games created by members of the original *Sonic* Team are considered to be truly *Sonic* games.[38]

According to media theorist Henry Jenkins, online fan sites (like the *Sonic* fan communities) are an example of the new kind of knowledge communities made possible through the Internet. (Jenkins 2006b, p. 26) Jenkins refers to the work of sociologist Pierre Lévy, who identifies these communities as a type of collective intelligence. They are self-organising groups who harness the capacity of the Internet to synchronically combine the expertise of all their members to work together toward shared goals. Knowledge communities, according to Lévy, are held together by the mutual production and reciprocal exchange of knowledge. They are not a group that simply have a collective belief, but one that works together to actively generate knowledge and answer specific questions. The groups can then "make available to the collective intelligence all the pertinent knowledge available at any given moment." (Lévy 1997, p. 217) Lévy proposed that, within the communities supporting collective intelligence, the shared enthusiasm of the group inspires the individual members to seek out and monitor information for the collective good of the group.

[38] James Newman also encountered this in his research. (Newman 2008)

In the development of the *Sonic* exhibition, it was the *Sonic* fans whose pursuit of knowledge meant they were able to provide authoritative information on the character's design and evolution, enabling the documentation of his development from low-res bitmaps to 3D polygons. The fan-sites were able to provide images of box art, original instructions and a full history of the media and merchandise that grew around the successful franchise.

The wealth of research and resources offered by the fan community was far beyond those attainable by a research budget for a small exhibition. This information was not available through *Sonic*'s creators Sega or Australian publisher THQ.[39] Whilst access to interview Yuji Naka and other members of the *Sonic* Team would have been a valuable contribution to research, the community provided a comprehensive catalogue of existing interviews to draw upon. In the development of the *Sonic* exhibition at ACMI, it was the *Sonic* fans whose research ACMI drew upon and whose representatives ACMI worked with to develop the information resources for the exhibition whilst Sega, *Sonic*'s official owners, signed off on ACMI's selection and interpretation of the fan generated material.

In these new knowledge communities the relationships between the traditional owners of media and the new fan communities as both consumers and publishers is complicated. Sega are supportive of the *Sonic* fan communities and do not harass them about the online publication of official *Sonic* images. They do not challenge the fan-made animations, slash-fiction, comics and games that proliferate on these sites. Nor do they act against the *Sonic* radio stations broadcasting online. Sega were happy for ACMI to profile the fan communities but requested that no fan-games be displayed. They did not wish visitors to mistake the fan-games for the

[39] Sega did not have offices in Australia at this time.

licensed versions. The obvious difference in quality can offer a simple explanation for their concern. They do not, however, instruct the fan communities to remove these games from their sites. The relationship between fan communities and publishers in the online world is a delicate one. The value of these communities to Sega in helping maintain *Sonic*'s fan base and legacy can in part be measured through what is not policed in their engagement with these communities.

6.2 Gamers, collective intelligence and the new knowledge communities

> "…no one knows everything, everyone knows something, all knowledge resides in humanity" (Lévy 1997, p. 20)

The Internet has fostered a new generation of interactive audiences - media consumers who, through the web, are able to also act as producers, distributors, publicists and critics. According to Henry Jenkins, this transformation is made possible through technology enabling consumers to 'archive, annotate, appropriate and recirculate media content' that has supported the evolution of a series of active subcultures of Do-It-Yourself (DIY) media production. Audiences are now more active in their modes of spectatorship and adept at dealing with information available across multiple media channels. (Jenkins 2006a, p. 136)

The technological nature of videogames and the tech-savvy nature of their fans has made them an interesting case study of how these new participatory audiences actively utilise the Internet. Gamers have been active online since there was an online to be active on. They have been there from the beginning. The early history of computing and the Internet is intimately linked to the arrival of videogames, their origins springing from similar labs. One of the earliest uses of the proto Internet was to play games such as the multiplayer online games *Empire* (1973) a *Star Trek*

based game created for the PLATO system.[40] The separation between gamers and game designers came later, with the commercialisation of videogame design. In the early days, they continued this close relationship in developing the original MUDS and distribution of gameware through bulletin-boards. Network game play, as exemplified by *Quake*'s (Id Software, 1997) 'deathmatch', was its own little online revolution. And the development of mods and machinima are clear examples of the vitality and creativity of game fans when supported by the networking capacity of the Internet.[41] Industry continues to work closely with fans, seeking their opinions on projects through beta releases and forums and creating toolkits for them to mod, skin and develop content. Modding itself continues to be a viewed as a pathway to entering the professional industry.

Gamer communities have not only actively worked to document game history, they are also responsible for developing ways to archive the games' software itself. Not merely preserving the code, but creating the means to continue to access software (play the games) developed for redundant hardware through emulators. They have taken upon themselves the traditional role of the museum by collecting and preserving artefacts. The professionalism of the structure and information management of some of these sites, such as *The Hall of Light,* underpins

[40] According to Raph Koster *Empire* supported 32 players.
Http://raphkoster.com/gaming/mudtimeline.shtml

[41] PC games have a strong tradition of more open systems allowing dialogue between developers and players. The development team at Id Software, passionate gamers themselves, made the games they wanted to play. In the mid 1990s they published their demo's online directly through the bulletin-board system so that gamers might try them before purchasing the game. Seeing that players had modded their games, Id made toolkits to encourage players in this pursuit. It is difficult to present companies like Id as traditional media publishers. They identified as gamers and, through the Internet, were in direct contact with their users. Console games (post 1990) that need to be channelled through a large company such as Nintendo operate in a traditional publisher mode. And, as the industry has matured and is now dominated by fewer super publishers, the games industry at one end begins to resemble old commodity culture. However, at the other end, there is a large independent movement for design and distribution of which Steam is the best example. Yet even this is blurring, with the larger publishers such as Sony and Microsoft now exploring the territory of digital distribution and independent design through their online facilities for gamers.

the seriousness with which they address this task.

The most well-known emulator, MAME arcade emulator, allows fans to access and play original arcade game ROMS on their PCS. It began with two Italian software engineers Mirko Buffoni and Nicola Salmoria who, in 1997, created a program that would emulate the chip architecture of the most common arcade cabinets. They placed their emulator online so that anyone could download it, dubbing it 'the Multiple Arcade Machine Emulator' or MAME. Its creators saw the highly networked architecture of the Internet as the safest place for the storage of the early code to ensure its ongoing survival. Very quickly arcade fans all over the world began debugging and saving the code from old cabinets using MAME. Currently in its 135th version, it operates in a shadow-world of rights, for whilst the emulators are legal, the 'ripping' and sharing of game ROMS is mostly not.[42] MAME is an example of a community working together to create tools for preserving videogames. Developed through individual passion and shareware philosophy, these tools are just one component of a wider community of arcade games archiving. *The Killer List of Videogames* (*KLOV*) is a site created and used by arcade game collectors for sharing information and resources regarding this era of game design. *The Arcade Flyer Archive* (*TAFA*) is a site dedicated to archiving arcade game fliers. Produced as advertising documents for arcade machines, each flier is photographed and documented for *TAFA*, offering an encyclopaedia of fliers. The easily searchable database is a rich source of information, valuable for collectors and game historians.

Specialist fan groups such as the Software Preservation Society have an open access website *The Hall of Light* dedicated to collating information

[42] The first public MAME release (0.1) was on February 5, 1997 version 0.135 was released October 31, 2009. At this time the emulator supported 4302 unique games and 8380 actual ROM image sets and is still growing. Not all of the games in MAME are currently playable with Wikipedia reporting that 1217 ROM sets are marked as not working in the current version, and 46 are not actual games but BIOS ROM sets. *http://mamedev.org/history.html* accessed 12.10.09

on historic Amiga games. The have also produced dedicated disc imaging software allowing them to make high quality copies of game files. Fans share games with them to copy they do not however post any of their ever-growing games catalogue online or release material to people who do not own copyright as they not wish to jeopardise the projects serious preservation aims. The catalogue of games on fan site such as *Hall of Light* and *Lemon Amiga* includes valuable documentation exploring a comprehensive series of fields. *Lemon Amiga* does not host ROMS but links out to sites that do. It, like *The Hall of Light* site, is a wonderful celebration of all things Amiga and thoroughly professional in its approach to database management. These sites look forward toward the future possibilities for sharing and accessing that software. Once again the fan communities are at the forefront of navigating these new territories.

These sites arose out of fans' understanding of the need to archive and preserve videogame artefacts, a task that no one was, at that stage, officially engaged in[43]. Navigating the rights status of early games is difficult as the games industry has been lamentably lax in caring for its history. Companies are subject to publisher buy-out and businesses collapse and disappear. It is so difficult to identify who may own the rights of many early-computer games that some are now considered 'orphanware' and 'abandonware'. Operating outside institutional structures, fan communities are not so hindered by legal issues and are able to progress their work without hesitation.

[43] There is an increasing awareness of the importance of institutional archive projects for the preservation of digital materials including videogames. Game repositories exist in the Berlin Computergames Museum, Stanford University, and The University of Texas and the Strong Museum of Play. In 2009 the National Media Museum, Bradford UK launched the Digital Games Archive Initiative. Many national libraries are involved in software preservation projects such as the European library consortiums PLANET and KEEP projects and the U.S Library of Congress' Persevering Virtual Worlds project.

6.3 Authoritative Audiences

In his vision for the, then new, online knowledge communities, Lévy identified a challenge to existing power structures, arguing that the collective exchange of knowledge through information communities is one that cannot be fully contained by previous sources of power - the 'bureaucratic hierarchies, media monarchies and economic networks'. He saw the capacity of the dynamism and responsiveness of the exchanges within a collective intelligence to undermine traditional forms of expertise. He also foresaw the potential for these knowledge communities to destabilise existing systems of power, breaking down a system where it is prescribed that 'some meanings are more valuable than others'. (Lévy 1997, p. xxiv)

Historically the connoisseurs, whose collections became the basis of the original museums and galleries, were gentlemen scholars and collectors. Their standing in society already sanctioned their collections as worthy and culturally significant. Fan knowledge, despite how deep their investment in their subject, is not afforded the same reverence as that of the connoisseur. This divide is not a simple one of high and low culture. The problem is that a lack of critical distance is implied by the term 'fan', a title that suggests a position of 'excessive worship' rather than the informed authority of the connoisseur.

This historic image of the fan, however, is not that claimed by Jenkins in his discussion of the fan in the new era of participatory culture. He identifies fans as Lévy's knowledge communities, as having the potential to create something more powerful than the sum of its parts. Jenkins proposes that online fan communities present a type of knowledge that expands a community's productive capacity because it frees individuals from the limitations of their memory and enables the group to act upon a broader range of expertise that is enlivened by and supportive

of multiple ways of knowing.

The concept of an active audience is now central to understanding interpretation practices and the participatory culture of fans is already reshaping the media industry. They are no longer the 'rogue readers' of Henry Jenkins' early excursion into the world of the 'Trekkie', but now the creators and owners of a valued set of interpretations. Many of the *Sonic* game fan sites and fan archivist sites are well designed and well disciplined, they have clear aims and structures and there is nothing mawkish or second rate about their presentation of information. Before the publishing boom in games scholarship, sites such as these were the only authorative resources available to researchers. In acknowledging online fan communities as a valuable site of both meaning-making and the active preservation of games as cultural artefacts, curators, museums and galleries can and must learn from and work with these new knowledge systems.

The rise of vernacular knowledge challenges the museum's historic status as an apparatus for expertise. Embracing vernacular knowledge, however, is in accord with the contemporary museums' desire to offer a voice to its audience. However, in filtering this knowledge through the institutional process of authorisation, rights clearances, permissions, corporate sign-off and then reworking it into the authorative language of the institution, the information becomes co-opted into the discourse of the establishment. The *Sonic* exhibition did not offer live links to the fan sites, but presented edited compilations of highlights, thus preventing the unwary visitor from encountering both the contentious fan games and *Sonic* slash fiction. Neither Sega nor ACMI were keen for audiences of the exhibition (popular with families) to be unwittingly exposed to, for instance, fan imaginings of sexual encounters between Sonic and Tails. For ACMI this was conceived as appropriate and responsible – a duty of care - rather than censorship.

6.4 The museum is a graveyard of dying objects

The German word 'museal', claimed Theodor Adorno, has unpleasant overtones. It describes objects to which the observer no longer has a vital relationship and which are in the process of dying.[44] Videogames, by nature, are performative, so how can their display as playable objects within the museum equate with Adorno's tragic reading of the 'museal'? Videogames, like all cultural artefacts, can lose the vital relationship they had with their audience. And, as artefacts often celebrated for technological innovation, they can quickly lose the contextual conditions that originally made them fêted. Visitors to the *Hits of the 80s: Aussie Games that Rocked the World* exhibition at ACMI Games Lab in 2006 were discouraged by the unfamiliarity of Beam Software/Melbourne Houses' top selling games. Games like *The Hobbit (*Beam Software, 1982*),* a massive international hit, flummoxed and frustrated Games Lab audiences with navigation challenges, unfamiliar puzzles and demands on the player.

Once celebrated for its dynamic design, *The Hobbit* was a work that helped transform the industry and how people played games. Philip Mitchell's complex parser system extended the idea of the vocab of a text adventure and Veronika Meglers openworld game design was a ground-breaking piece of game code. The game was so challenging it could take up to three months to complete and it was not uncommon for players to meet in groups to play together. One British player wrote an extensive How-to-Play guide for the game and sent this 'walkthrough' to Melbourne House, which then published it. It was one of the earliest, perhaps the first, published stand-alone game walkthrough. However the exhibition of the

[44] Theodor Adorno, 'The Valery Proust Museum' quoted in (Crimp 1993, p. 45) Adorno's meditations were based on ideas of the museum as mausoleum explored by Valery, and Proust, who in the first decades of the twentieth century attacked the museum as a graveyard for works of art which no longer had a vital cultural force.

playable game at ACMI could not communicate the experience of playing the game in 1982 when its design and gameplay were cutting-edge. The contemporary audiences were bemused by the claims for its success and significance and generally lacked the skills and patience to actually play the game. For these games, even presented as playable objects, that vital relationship had waned. The historic status that made them such a strong subject for investigation within a cultural institution, also made them less accessible to audiences as actual games. Their time had passed.

One way to revitalise the relationship of audiences to such historical artefacts might be through the use of fan knowledge. Its vitality and enthusiasm for the subject can produce richly-textured interpretations of these historic games. Fans have intellectual capital but, more importantly, they also have an understanding of games as a set of experiences. Fan knowledge is based on lived experience and situated knowledge. Whilst preserving the code is meritorious, it is just part of the story of videogames: an understanding of the played game and its reception within the wider sphere is just as essential to understanding the cultural significance of the object.

Documenting, exhibiting and preserving videogames requires a layered approach. The designed object needs to be supported with an understanding of the played object and this may involve aspects of both ethnographic and social history. In relation to the played object, fan communities offer a multiple of set of perspectives. These sites have the benefit of a wikipedic approach based on collective fact-checking. Theorist Nancy Baym discusses the importance of ‘showing off’ as a motivator in fan communities, noting that this can lead to precise comparison and refining of information.(Baym 1998, p. 115) This can be a mechanism that creates a rigour with which the group will determine what is the ‘factual’ story - one of precise dates, names, processing power and description of the designed gameplay. In addition, fan sites are also able to support a

multiplicity of memories and opinions. They are able to sustain a number of different readings and rememberings of a single work. To the description of one game, they can bring a multitude of personal encounters and experiences.

Player stories animate the historic games. They are themselves like ‘easter-eggs’, little discoveries that delight. It was the hilarious player stories of the strangeness they encountered that brought to life the wonder of *The Hobbit* as one of the earliest persistent games worlds. Tolkien’s characters would wander around doing their limited AI-thing in the world even when the player was not in contact with them. This resulted in totally unexpected events in the game such as Gandalf getting himself killed elsewhere and making the game un-winnable. Drink the wine and the text gets tipsy. Players, keen to explore all possible interactions in the introductory scene, would accidentally lock themselves in the trunk at Bag End. Game-over! And how the expression ’Thorin sits down and sings about gold‘ can make a generation groan with the acknowledgement of a trail shared.

Twenty years after a work is released, how can the memory of encountering it as a new work and that sense of discovery be expressed in an exhibition? One possible way forward for the curator is to utilise and work with fan communities so that it is possible to introduce elements like these into the gallery. Game fan communities are able to support curators with rich and detailed information beyond the budget of exhibition research. They have created the emulators and archived original software making it possible to identify and acquire historic games for display. But how can curators utilise fan communities to help present and document not just the look and feel, but also the social and personal experiences made possible through videogames? Within the gallery the challenge remains of asking audiences to embrace games as cultural artefacts beyond the reductive sensation of is-this-fun-to-play to present

videogames as subject to material and historical forms of understanding.

It is evident that there are numerous advantages for the curator and the museum to working with knowledge communities. It is also, however, equally evident that such an alliance raise questions that are beyond the scope of this dissertation. These include: What role could fan communities' play beyond being an information source? Can fan communities be active within the museum-space, potentially offering an ongoing dialogue? And how can the collective meaning-making within user culture be deployed to change the way the museum sector collects, interprets and shares information?

7. Conclusion

> The avant-gardist principle of art striving to be a driving force and to impart momentum to the development of society as a whole has undergone a shift – science, pop culture and subculture niches, business & entertainment, software engineering, etc. are the epicentres of the exciting leading-edge developments.
>
> First and foremost, there is the games industry a multibillion-dollar market in which, of course art initially plays no role. But it is through these games that new themes, new forms of narration and expression and thus new forms of medial communication emerge and go about the process of becoming the predominant cultural mode. (Stocker 2001, p. 15)

7.1 Overview

The museum provides a context and authorisation to explore videogames, validating them as cultural artefacts with aesthetic and socio-cultural significance. This dissertation set out to investigate how videogames can be presented in the gallery, examined their representations as cultural objects, explored videogames as both artefact and activity, looking at institutional agendas for the exhibition of videogames. The discussion acknowledged the cultural importance of the museum to create forms of social knowledge, for legitimising types of knowledge and evoking certain narratives through a combination of poetics and politics. As noted by Steven C. Dubin on the importance of the museum, “There is a great deal at stake here. Museums commonly present the ‘real thing’: art, objects and artefacts that bear the aura of the authentic. They endow the ideas within any exhibition with tangibility and weight.” (Dubin 2006) It is in this context that this research explored some of the dominant narratives used to explore videogames as cultural

artefacts, examining what they reveal about our relationship to both videogames and the museum.

The relationship of videogames to the museum was also discussed in terms of how videogames can present fertile opportunities for exploring the re-mediation of the museum in the network age. Videogames engage a broad range of individuals across economic, age and gender demographics. A significant proportion of this audience is actively involved in not just consuming games, but in exploring the re-mediation of original game artefacts, via online forums, web site and online communities. This culture of 'meaning-making' by user-communities, independent of institutional structures, presents valuable opportunities for museums to explore a new relationship to audiences and an alternate means of understanding and presenting digital media culture. This paradigm of online knowledge communities forms a necessary part of understanding videogames as designed objects, as well as interactive experiences and reconfigurable software.

7.2 New models of authorship, agency and authority

The first pair of case studies framed a discussion of the challenges to the museum's monopoly as the 'proper' site for curation and exhibition in the digital age. In the online exhibition *Cracking the Maze* curator Schleiner looked toward the contemporary cultural practice of videogames, to imagine how art and new institutions can re-invent themselves in the digital age. The shift in curatorial thinking, highlighted in the contrast between *Hot Circuits* and *Cracking the Maze,* was from a focus on historic artefacts preserved along traditional lines to an examination of the re-mediated work as the culturally representative 'artefact' of the era. *Cracking the Maze* addressed new models of authorship and agency, recognising the importance of digital media to support participatory culture, allowing its users to adapt, re-imagine and

rework the original artefact. The exhibition situated itself online as part of the broader culture of player activity that surrounds videogames, but also within the new online organizations, whose vernacular knowledge base challenges established institutional boundaries and power relations.

The comparative analysis of the two exhibitions highlighted how our understanding of videogames and therefore their reception and representation within the museum, is linked to the rapid socio-technological changes offered by digital media technology. *Hot Circuits* addressed itself to the arrival of videogames, but offered as its most defining experience a sense of history passing due to the accelerated evolution of computer technology and the new possibilities it quickly offered game designers. The arcade machines of *Hot Circuits* were readily accommodated within the museum practice of collection and preservation of objects, with the exhibition's curatorial question situating the work within a continuity of the story of the moving image. In contrast, *Cracking the Maze* was located outside the traditional gallery structure and explored the Internet as a site for both production and distribution. It addressed itself not to original artefacts but to hacker works, which explored how users could actively transform videogames and how this activity was intrinsic to the medium itself. Informing this discussion was an understanding that the experience of videogames cannot be adequately experienced in isolation from the rich online community that informs games culture.

7.3 Modes of Display – exhibition narratives

Exhibitions are in the practice of producing meaning through the ordering of objects in space, the conjugation of the separate but related components to produce narratives. They are sites for representation, spaces for contesting the meaning of things. Historically museums were engaged in creating authorative systems of representation characterised

by narratives of tradition, influence, development, evolution, source and origin. In the second pair of case studies this research investigated some key narratives explored in major exhibitions of videogames. The pervasiveness of the dominant modernist narratives of progress was examined through a reading of the exhibition *Game On*. The exhibition's underlying narrative of technology evolution, sustaining a classic homogenising reading of videogames as technological artefacts, presented the past preserved and future projected. Sustained by this narrative spine, *Game On* presents a survey style compendium of key ideas around the design and reception of games. The exhibition's minimal didactics and hands-on approach to experiencing the work, predominantly through its gameplay, attracted a games-literate audience who were invited to bring their own reflections into play. In contrast *Gameworld*'s heterotopic structure and its juxtaposition of themes was designed to reveal that systems of representation can themselves be shifting, contingent and contestable. Through putting the act of display on display it provoked questions on the very nature of videogames and our relationship with them.

This comparative analysis demonstrated how these differing narrative approaches relate to the institutional context of each exhibition. For *Game On*, the motivation was to attract a new audience, through an exhibition that presented an authorative modernist narrative of artistic and creative endeavour. In contrast, Gameworld reflected the ambition of LABoral to position itself as a catalyst for the creative industries and a digital future. *Gameworld*'s videogames are not personified as the discreet artefacts of the entertainment industry as was the focus of *Game On,* but offer broader reflection upon videogames as digital culture, as engineered and algorithmic experiences but also sites of experimentation, research and placemaking. Broader institutional agendas were considered in the discussion of these exhibitions, reflecting how differing museum's are

positioning themselves post-postmodernism and how these ambitions critically inform their exhibition narratives. On the evidence of LABoral, the contemporary museum may be less focused on cultural preservation than addressing civic revitalisation through tourism and engagement with the creative industries.

7.4 The language of the ludic

Following on from these case studies, Chapter Four addressed the idea of games literacy. It defined key criteria for understanding videogames and outlined ways the curator could think about how to address these in the gallery. Games were considered in relation to three key thematic structures, games as rule based systems (including their hardware and software components), games as cultural creations and games as sites of play. The challenges of game literacy for exhibition were highlighted. In particular the demands of interactivity, both as set of skills required by the audience and an understanding of the tropes and iconography that signify the choices offered to player in game space. In addition was issue for the gallery of the demands in terms of the duration required to examine a time based medium. A lack of audience familiarity with the language of games design and in particular, the operation and significance of game mechanics was addressed. These differences were identified as issues that the curator of videogames needs to consider in their practice.

Videogames, whilst built with a set of internal meaning, also traffic with meanings from outside. Building on a concept raised in the earlier comparative studies was the idea of the importance of the rich culture of meaning-making that surrounds games. This chapter identified a critical question for curators - how in exhibiting games, can we identify and display the cultural production that surrounds games? It addressed itself to how important it is to represent this culture, concluding that for many

games, in particular MMOS, the exhibition simply of the designed object may fail to communicate anything significant about the true experience of the game. It concluded that museums must consider more than just the ludic and aesthetic qualities of videogames, but also the need to address the player's stories - the creative ecology that develops around games. Arguing that part of the curatorial role in the exhibition of games is to examine the cultural production that surrounds them.

This idea is further developed in Chapter Six, which examined the rise of vernacular knowledge produced by gamer communities. This chapter concludes that the work of gamer fan communities cannot only contribute to the work of the curator through supporting research, but that they can offer models for how museums may address the issues of displaying and collecting in the era of networked communities and participatory culture.

7.5 Further Work

The insight enabled by this study clarifies key questions on how the exhibition of videogames can contribute to our understanding of the cultures of display. In particular, the transformations of the act of exhibiting, given the potential of the era of the networked society and participatory online culture. One clear issue that emerges from the discussion of the case studies is the challenge to locating exhibitions in the architectural space of the gallery. Is this an environment that best serves the complex time based activity of digital games and their intimate relationships to their user communities?

The thesis that the culture of videogames is built upon the creativity, productivity and sociality of gamers offers a further principle area for exploration. How does this notion inform and affect the exhibition of videogames? What can gamers teach the museum about the changing cultural landscape of distributed knowledge and the increasing importance

of vernacular knowledge?

The challenges for the curator and the museum is to envisage how they might work with the online knowledge communities of the games community to develop exhibitions that reflect the idea of distributed knowledge and the multivalent experiences fostered by the designed objects. These may include the design of exhibitions so as to enable fan communities to be active within the museum-space and potentially offer an ongoing dialogue with audiences. The curator must now consider how in the age of participatory culture the collective meaning-making within user cultures such as gamers may change the way the museum sector collects, interprets and shares information.

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Appendix 1: *Game On*

Section 1: Early Arcade Games – Featuring *SpaceWar!,* the source for the first arcade game Nolan Bushnell's *Computer Space*, *Pong* the first commercially successful arcade game and including a collection of classic arcade games from the golden age of arcades such a *Pac-man*, *Galaga* and *Centipede* which was one of few early games designed by a woman.

Section 2: Top Ten – This section explores the story of arcade games consoles from 1972 (Magnavox Odyssey) to 2000. It includes a replica of Greg Baers' *The Brown Box* (1968). Each console features a game that was considered classic for that system e.g. *Mario Bros* on the Nintendo Famicom, *Lemmings* on the Commodore Amiga and *Tempest 2000* on the Atari Jaguar.

Section 3: Game Families – using a classification system of games families devised by the Le Diberder brothers in their book *L'univers des Jeux Video* this section explores a selection of classic games under the groupings Thought Games, Action Games and Simulation Games.

Section 4: Sound – acknowledging the importance of sound design in games this section explore music from the chip sound 8, 16 and 32 bit era through to fully scored works by composers such as Koichi Sugiyama. In addition to specialised sound games such as *REZ* and *Chillingham*, a game for the deaf.

Section 5: Cinema – explores tie-in between games and the movies with a display of movie inspired games and original film posters from films developed from games. Produced for the 2002 exhibition the display does not contain any of the more intriguing relationships where overarching narratives move freely across sequential films and games such as the

Matrix series and the *Chronicles of Riddoch.*

Section 6: Games Culture USA and Europe & Section 7: Games Culture Japan – two sections dedicated to exploring the way games reflect wider cultural interests and a sense of cultural identity. The selection of games is chosen to embody and illustrate these relationships. The influence of manga and anime, the importance of 'kawaii' and the distinctly Japanese nature of their dating games, makes for a distinctive Japanese collection in Section 7. However other than the EA sports catalogue dominated by the *Madden NFL* series it is actually impossible to pick the countries that the selection of games in Section 6 represents.

Section 8: Multiplayer Games – dedicated to celebrating playing together with a particular focus on online play, although, perhaps due to its classification, avoids the most historically significant work *Quake*.

Section 9: Kids Games – important in a curatorial sense to have games that appeal in particular to children in an exhibition that is designed to attract families. This section also highlights that videogames are not intrinsically childish but include a suite of specially designed games that work to engage children in suitable content, including examples of early learning games. The section includes a collection of hand-held games that were originally the jurisdiction of the child and took gaming to the playground and the back seat of the car. The Playstation Portable created a device that operated as more than a games machine and marketed itself at adult games and the Nintendo DS produced a suite of games that attracted both child and adult.

Section 10: Character Design – focused on two of videogames' most enduring characters, this section reflects both on the 1990s console war between Nintendo and Sega and Mario's and Sonic's creators Shigeru Miyamoto and Yuji Naka.

Section 11: The Making and Marketing of Games – imagined as a dominant section the making and marketing of games took the process from concept drawing to the promotional poster. The Exhibition curators worked with some of the most significant games of the era from around the world. It was here that the bulk of the original artwork for the games was displayed. It was also in this section that the games merchandising featured. Found in this section was also the one allusion to videogames algorithmic nature in the exhibition with a display featuring about ten lines of code taken form *Grand Theft Auto III*!

Section 12: Magazines –this section was a nod to original exhibition sponsors *The Edge*. *The Edge*, a British journal, has long been a leader in offering an intelligent cultural critique of games. The history of game's journalism has yet to be well examined and would make for interesting research.

Section 13: Future Technology - the exhibition launched in 2002 with a truly futuristic display of the pre-release Playstation Eye Toy. On its return to London to the Science Museum in 2008 it managed to recapture this with a release version of the Nintendo Wii and its motion-sensing controller. The section, throughout the exhibition's history, has focused on showcasing the latest generation of games technology. Since the exhibition launched in 2002 a whole new generation of consoles has evolved. Digital distribution has become an established arena for games sales and millions of people are now playing massive multiplayer online games.

Appendix 2: *Gameworld*

Digital Game Canon – this list of ten games was created by a panel of game designers and historians to be considered for the Library of Congress for preservation. It's 2007 submission to the Library of Congress by Henry Lowood, curator of the Stanford University History of Science and Technology Collection, was a clear statement that videogames were now mature enough to acknowledge their origins in a series of seminal and influential works. It is a statement that was designed not just to have videogames acknowledged for their value as cultural artefacts but to initiate an institutional process of working toward their preservation. The Digital Games Canon committee comprised of Henry Lowood, Warren Spector, Steve Meretzky, Matteo Bittani and Christopher Grant.

Games Recoded – a selection of eleven art works where artists have reframed the original games. These include material interventions of Cory Archangel and Paper Rad's *Super Mario Movie*, where Archangel has translated Paper Rad's drawings to code and placed them on a chip that he has soldered on a cartridge of *Super Mario Bros* to create the resulting mash up when the cartridge is played. Also included are the physical manipulations of *TFT Tennis* (2005) Dirk Eijbout's experimental tennis interface, where placers must physically manoeuvre screens, rotating and angling them to return volley and Joan Leandre's hacker work the *Retroyou Series* (1999). For the *FCK the Gravity Code* Leandre has removed a racing games gravity code leaving the cars to float in space for *Butterfly Overflow*. The game world itself is rendered as shimmering abstract planes of colour.

Experimental Gameplay/Games Research/Serious Games –explores how games are operating in new spaces. This section

investigates the potential of what videogames, as an emerging art form, could be and the experiences and revelations that they may be able to foster. It is characterised by a mix of commercial games, artist work and independent games and illustrates how these categories are themselves blurred. Serious Games covers the persuasive game projects of Ian Bogost, whose gameplay makes editorial style commentary on issues such as world oil politics and the perils of corporate food production. Interventions like Eastwood Real Time Strategy Groups mod *Civilization IV – Age of Empires* a *Civilization III* mod that replaces games designer Sid Meier's historic empires with global media and technology conglomerates examining how these have replaced the nation state as the locus of power in contemporary society. This section also includes the controversial *Super Columbine Massacre*, an attempt to develop a style of critical gameplay using a very sensitive subject. The Experimental Gameplay works feature everything from the Playstation's remarkable *We love Katamari (2005)*, the time bending puzzler *Braid (2007)*, *flOw* (2007), Jenova Chen's mediation on a ideal state of absorption when the players skills are in perfect accordance with the challenge and the sensory and cognitive challenges of Eddo Stern's *Darkgame* (2007) and Julian Oliver's *2nd Person Shooter* (2006 - 2007). With innovation in games so often being equated directly with technology it interesting to note that two of the three games representing Games Research, *Façade* (2005) and *Once More with Feeling* (2007), reflect AI technology in the service of emotional engineering.

World / Game – is a statement on how the world is increasingly viewed and understood through the language of videogames. This section looks at games, virtual-places, documents, recordings, events, installations that are testimony to the way that the iconography of games, the grammar of gameplay and the identity of the gamer are woven into everyday life. *Readyplayed* (2006) is a video project based on parcour, the French 'physical art' that transforms the street into a game-space

navigated by the performer. *Boys in the Hood* (2006) is a series of interviews with *Grand Theft Auto* players discussing their in-game escapes that seem comfortingly real to the viewer. Eva and Franco Mattes *Portraits* are of a series of idealised avatars from *Second Life* whilst in *WOW* a crowd wanders around a town with their names suspended over their heads, as you would find in the virtual space of *World of Warcraft*.

Appendix 3: *Game On*: Reading and Reception

A survey of media and blogs on the original *Game On* 2002 Barbican show presents a general sense of celebration for a chance to explore the history of videogames and the opportunity for hands-on interaction. Many of these reviewers are quick to confess their youthful or continuing passion for videogames, whilst others unsure of videogames' status as art admired the scale of the show and the science on display. What is apparent is that despite the aims for artistic appreciation, exhibitions of videogames are predominantly the domain of science and technology reviewers.

The arts section of *The Spectator* offered a rare review from an arts journalist and for her the exhibition appeared to be profoundly challenging:

> "Can a computer game be beautiful? Are games an unrecognised art form? Should we know and revere the names of game designers, artists, musicians and programmers? The answer to these questions posed by the Barbican curators must be a resounding 'No'."(Harrod 2002)

The review goes on to offer a veritable checklist of derogatory clichés from 'unwashed gamers who can't get a real girlfriend', accusations of soft porn and ending with the assertion that the "11 September terrorists probably honed their skills with Flight Sims." It is clear that this reviewer arrived with a head full of negative ideas about videogames that the exhibition merely served to reinforce. What is most fascinating about the article, however, is that the fiercest attack is reserved for those games which are by design nearly impossible to experience or understand in the gallery. Her loathing is strongest for the "so-called adventure games, resource management games and worst of all the numerous role playing games". It is their complexity, their demands on time and

the responsibility that the player must shoulder (“compared to film”) that she finds so irksome about these works.

The reviewer’s aggressive response to finding games in the gallery raises the question that *Game On*, in structuring its exhibition around an invitation to play, perhaps neglected to explain the challenges of gameplay, or provide sufficient support to those who did not ,or could not play. But most importantly it raises the question about the challenges of reviewing games in the gallery and to reviewing exhibitions of games. Who is qualified to review games in the gallery?