Playermaking:
The Institutional Production of Digital Game Players

Steven Andrew Boyer
BA, BS, MA

Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

Centre for Cultural Policy Research
Department of Theatre, Film and Television Studies
College of Arts
University of Glasgow

September 2013

Abstract

This thesis investigates how the digital games industry conceptualises its audiences in both the United States and the United Kingdom. Drawing upon research focused on other media industries, it argues in favour of a constructionist view of the audience that emphasises its discursive form and institutional uses. The term "player" is institutionally constructed in the same way, not referring to the actual people playing games, but to an imagined entity utilised to guide industrial decisions. Using both desk research and information gathered from expert interviews with digital game development professionals, this thesis looks at how ideas about players are formed and held by individual workers, transformed to become relevant for game production, and embedded into broader institutional conceptions that are shared and negotiated across a variety of institutional stakeholders.

Adapting the term "audiencemaking" from mass communication research, this thesis identifies three key phases of the "playermaking" process in the digital games industry. First, information about players is gathered through both informal means and highly technologised audience measurement systems. Institutional stakeholders then translate this information into player, product and platform images that can be utilised during production. The remainder of the thesis looks at the more broad third phase in which these images are negotiated amongst a variety of institutional stakeholders as determined by power relations. These negotiations happen between individual workers who hold differing views of the player during development, companies and organisations struggling over position and value across the production chain, and the actual people playing games who strive to gain more influence over the creation of the images meant to represent their interests. These negotiations also reflect national policy contexts within a highly competitive global production network, visible in the comparison between the US neoliberal definition of both the industry and players as primarily market entities and the UK creative industries approach struggling to balance cultural concerns while safeguarding domestic production and inward investment. Ultimately, this thesis argues that conceptions of players are a central force structuring the shape and operation of a digital games industry in the midst of rapid technological, industrial, political and sociocultural change.

Table of Contents

List of Tables

Acknowledgements

First and foremost, I have to thank my supervisors, Raymond Boyle and Philip Schlesinger, for enthusiastically agreeing to oversee this challenging and unconventional project, keeping me motivated, and offering invaluable insight into cultural policy in the UK. Thanks also to the rest of the faculty and staff at the Centre for Cultural Policy Research for helping me along the way, especially Melanie Selfe.

This project would absolutely not have been possible without the kind participation of all of the game developers who graciously took time out of their busy schedules to engage in conversations that undeniably became the highlights of this entire process.

In Glasgow, the other postgraduates from CCPR and the Department of Theatre, Film and Television Studies were sturdy comrades and valuable allies. I am also deeply grateful for my friends from the veterinary school who took my mind off games and have ensured I go through the rest of my life knowing far too much about ruminants. My sincerest appreciation also to Rona, for offering and being exactly the sanctuary I needed when I needed it most.

Further afield, I feel extremely lucky to have met so many inspiring peers during my years in graduate school. Special thanks to everyone who made conferences like Under the Mask such a comfort and DiGRA a community. Likewise, my mentors and graduate crew from Georgia State University have remained a constant encouraging presence in my life and work even after I found myself far, far away from Atlanta.

Finally, to Athena and Peaches, my constant writing and life companions. To everyone in MHP, for keeping both my spirits and my APM up. To Janette, for always challenging me to become a more genuine person. To Brandon, pre-eminent straight-shooter, caps lock on. To Camile, my other straight line in a crooked world. To Angie, for always reminding me what is important. And finally, to my parents, for their unwavering support, love and encouragement. I cannot thank all of you enough.

Author's Declaration

This thesis represents the original work of Steven Boyer unless stated otherwise in the text. The research upon which it is based was carried out at the University of Glasgow under the supervision of Professor Raymond Boyle and Professor Philip Schlesinger during the period October 2010 to September 2013.

Chapter 1
Introduction

Imagining Players

When a person sits down at a computer with the intention of making a digital game, from the very first moment there is always the assumption of a player. In her/his head someone, somewhere, at some point in time will eventually interact with the program and have an experience. But who exactly is this imagined player in the head of the game creator? What does she/he look like, do for a living, and perhaps most importantly, find fun/enjoyable/exciting about playing a digital game, particularly *this* digital game in production? Is this person a friend, co-worker, or herself/himself? A person from a different state or country? Someone who shares or does not share with the creator the same gender, age bracket, sexuality, race, class? A member of a target market, demographic, or consumer group? Or is the imagined player none of these and just an ambiguous being defined only by being able to see, comprehend, and manipulate images and systems playing out on a screen? And when eventually selling the game in a marketplace, how does the developer *know* that this imagined person will be reflected in the people who actually end up playing?

But of course, digital games today are rarely created by only one person with a single vision and a single imagined player in mind. Instead, games are produced by development teams with numbers reaching into the hundreds, often requiring collaboration between multiple studios to create a single product. Moreover, they are commercial objects that require the input of a vast number of institutional stakeholders beyond those people who code the game in order to finally reach the hands of the actual people who will eventually sit down with a controller in their hands and play the finished product. Along this production chain, each and every person in all of these disparate companies have their own individual ideas of who this eventual player will or should be, resulting in a complex system of negotiations over intangible perceptions of players.

What factors within this system structure how different individuals and companies conceptualise players in their own unique ways? How do these perceptions of players then traverse this system as they are communicated between different institutional stakeholders, and what sorts of changes occur in this process of communication and translation? And what stakeholders within this production network have a privileged position in emphasising their own definitions of players over those held by other institutional entities, and how are these struggles managed?

This thesis investigates this institutional process of constructing the eventual "player" of a game by the various members of the digital games industry, which I call "playermaking." Rather than attempting to uncover who actually ends up playing a game, here I focus on the imagined players that are constructed throughout the production process for institutional purposes. While these players exist primarily in the minds of individuals throughout the industry, they emerge with material effects in design and production decisions, which are then negotiated across the industry. As such, playermaking not only indicates the ways the gaming industry views its players, but also reflects the experiences of the workers creating games and the power relations governing the digital games industry as a whole.

An examination of playermaking offers a window into the ways that the media industries attempt to understand and engage with their audiences in an increasingly digital world. This research project comes at an intensely transformative period of time for digital games, media and society. Placing these developments within a historical context, my focus is on the games industry as it exists during or slightly before the writing of this thesis, and as such primarily addresses the generation of game consoles that includes the Xbox 360, PlayStation 3, and Wii, as well as handheld gaming systems like the PlayStation Vita and the Nintendo 3DS, the Personal Computer (PC), social games played on various devices and platforms like Facebook, and mobile games on smartphones and tablets like Apple's

iOS and Google's Android devices[1]. In this heavily fragmented and constantly shifting marketplace, perceptions of players have become even more unstable and contested.

The questions posed in this introductory chapter at some point run through the heads of every person creating a game, whether or not she/he chooses to directly confront them. However, these questions are not restricted to the creators of digital games, but to anyone undertaking a creative task with the intention of eventually displaying their work to an audience. This thesis strives to interrogate issues of both medium specificity and commonality, questioning both what sets digital games apart from other media in their construction of players as well as how this process functions similarly to the creation of audiences in other media industries. This line of inquiry will result in an analysis that, although focused on digital games, speaks across media formats to both adapt theories based in other media to digital games and reciprocally uncover what the specificities of digital game production can offer to the study of media production and audiences more generally.

Ultimately, this examination of playermaking emphasises the broad transformations of conceptions of media audiences, the complexities of creative labour in highly technologised and interconnected media industries, and the impact of developments like social media and networked culture on both local and global industries and communities. If there is anything that could possibly be isolated as a defining characteristic of digital game medium specificity, it is the ability for its audiences to engage directly with complex dynamic systems that can only be statically perceived in other, more “fixed” media. Therefore, this research project endeavours to infuse the study of both game development and gaming audiences with an increased emphasis on the systems underlying both, which is exactly to what the academic field of digital game studies ought to excel.

[1]The impending “next generation” of home consoles, namely the Xbox One and the PlayStation 4, as well as Nintendo's recently launched Wii U, is mentioned only briefly in the majority of this thesis due to constraints of scope and the timing of this thesis' creation. However, I would argue that the discourses circulating these new devices already display the features of playermaking discussed in this thesis.

Thesis Organisation

This thesis develops the concept of playermaking to investigate how this process unfolds across the games industry. The following chapters serve to contextualise the research project I have undertaken here. Chapter two conceptualises the project by looking at the major academic strains and theories that form the framework of my examination of playermaking. I focus on media effects, active audience, media industry and political economy, and humanistic digital games studies as ways to interrogate and bring together studies of media audiences, media production and media work, and the specificities of the digital games medium.

After having set the stage, chapter three lays out my definition of playermaking and describes its significance in studies of both the digital games medium and media audiences more generally. Adapting the term "audiencemaking" from communication studies, I argue for a view of playermaking that is institutionally focused, not primarily concerned with the actual people who play games, but with the ways people working within the games industry come up with ideas about these players. This process is both similar to and diverges from the way audiences for other media are constructed, with significant implications for how audiences are conceptualised by scholars looking at other media formats and for digital game studies scholarship that has not yet fully engaged with theories developed initially with regard to film, broadcast, and print media. I argue that playermaking is a highly deterritorialised, technologised and personalised process that encompasses the actions of both institutions as a whole and the conceptions held by individual workers who produce media within these institutions. Ultimately, I describe three main stages of the playermaking process: information gathering and measurement, the creation of player images that can be utilised within production, and negotiations over these images.

Chapter four then outlines my research methods, which are divided into desk research and fieldwork. The former includes a combination of historical, discursive, and political economic analysis of a variety of primary and secondary sources. The latter involves expert interviews with digital game professionals in various aspects of game production in

order to supplement the desk research and gain insight into the intangible, conceptual nature of playermaking that occurs within the minds of game creators.

The remainder of the thesis unpacks these ideas and goes into much more detail on these different playermaking stages. Chapter five delves deeper into the process by which the digital games industry gathers information about players. The main argument is that these processes have become increasingly technologised, regardless of their degree of formality. In many ways, this is indicative of the broader technologisation of our everyday lives, with technological services like Facebook playing a growing role in such disparate realms as global communication, individual identity, and political discourse. As people embed their lives in these types of connected technologies, they translate this information into a digital format that can be measured and exploited by a variety of interested parties.

This offers the media industries an unprecedented opportunity to gather large amounts of information about the likes and habits of previously unknown audience members, much of which occurs invisibly. At the same time, these technologies introduce new complications to efforts to understand audiences, such as data privacy and questions about what information is worthy of measurement, while also continuing to incorporate traditional biases through a localised, distanced, costly, and exclusionary system.

Chapter six looks at what happens after information about players has been gathered, when it is translated into "player images," "product images" and "platform images" that can be put to use in the actual production of digital games. This involves a process of interpretation that generally falls to individual game workers, who traditionally envision audiences as similar to themselves, their peers, or their surrounding social group. However, as the market for digital games expands even further beyond the similar demographic of game developers, this process is increasingly one of either alienation or projection. At the centre of this process, then, is the role of identity for game workers, which I argue is a dual identity of both player and producer within an occupation that positions game play as part of game work. The player images that result, then, are embroiled with the conditions of labour in the digital games industry.

Chapter seven turns towards the national aspect of playermaking to determine how geographic industrial and cultural differences impact on both game production and the production of game players. Looking at the historical, industrial, and policy contexts for playermaking, this chapter argues that the highly networked digital games industry is governed by unequal power relations across nations and regions, primarily interacting based on competition. In terms of players, this dispersed institutional system thus commonly disavows the national audience in favour of a global consumer, with national industrial and policy imperatives focusing far less on their constituents than on safeguarding indigenous production and inward investment.

Chapters eight and nine look at the final stage of the playermaking process to stress its highly contested nature. The former chapter focuses on struggles and negotiations between the various stakeholders within the digital games industry, arguing that there are multiple points of contention and conciliation wherein the construction of game players may become highly contested. Chapter nine shifts the focus away from any presumption of a top-down dissemination of player images, instead arguing that the digital games industry is always in dialogue with game players in a system of hegemonic negotiations. This opens the door for input emerging from the bottom-up, but within structures defined by power relations. Playermaking, then, is a process involving a wide variety of stakeholders, both internal and external to the digital games industry, any of whom may either contest or support proposed player images. These images are then circulated in a range of wider cultural discourses, with implications that stretch far beyond the reach of the digital games industry.

The concluding chapter addresses this discursive expansion, looking at the many impacts that the processes of playermaking have on the digital games industry, workers, and players, as well as within cultural policy and popular social discourses. This chapter asserts that, while many digital game makers may not pay much attention at all to their routinised or even unconscious playermaking activities, the consequences may very well be significant and material. I close by observing some of the rapid changes that are drastically changing the way digital game development and playermaking occur, highlighting the

implications of this research project and considering possibilities for further study into the area of playermaking.

Chapter 2
Conceptualising the Player

Introduction

This research project investigates the varying ways that institutional stakeholders in both the US and the UK conceptualise digital game audiences. I position my research as following Philip Napoli's definition of an institution as simultaneously material and symbolic (2011: 2), which will be described in more detail in the following chapter. My approach focuses on the digital games industry as an institutional entity, arguing that this process of conceptualising players is orientated towards their usefulness for a variety of institutional purposes, encompassing but not limited to industrial functioning and processes, while also involving various sociocultural and policymaking impacts.

This chapter outlines the context within which this research is embedded, both to identify the existing literature from a range of fields that is relevant to this topic as well as provide the framework upon which my analysis builds. The goal is to consider how and why different academic traditions have conceptualised audiences and what impact this has had on current research. It begins by looking at two significant approaches to audiences with regard to the media industries as a whole.

The first falls under the broad category of media effects, either positive or negative, that generally posit a passive audience susceptible to the messages provided by media producers. In contrast, theories of active audiences suggest that media audiences cannot be easily controlled by producers and can actually play a meaningful role in influencing production. While supporters of these two approaches are often embroiled in seemingly-irreconcilable feuds, I argue that media effects and active audience theories are not mutually exclusive but two components of the same complex process by which people engage with media, both of which play a significant role in academic and popular perceptions of the digital games medium.

Following this focus on audiences, the next section takes the industry as its starting point, looking at how scholars of the media industries have conceptualised audiences. Like media effects research, early writing on media industries viewed audiences as passive consumers, as do many of the current studies focused on issues of conglomeration and deregulation. However, other research complicates these ideas by collapsing the producer-consumer dichotomy to look at how audiences have been incorporated into industrial production systems. This process of convergence has become even more pronounced with the arrival of digital technology, with digital games providing an especially rich realm of intersection between industry and audience functioning.

Informed by these pan-media approaches, the rest of the chapter turns specifically to studies of digital games. In this section, I argue that the emerging field of what I will call digital game studies within the humanities still has very few defining methodologies, instead drawing from a variety of established traditions from a range of disparate disciplines. There is no unified process for conceptualising audiences which means audiences have been approached in a variety of ways. Early attempts to situate digital games as part of a ludological tradition largely conceptualised audiences as idealised players, but this approach has not proven dominant. Instead, the medium's common perceptual constructions as children's entertainment and subcultural hobby contradictorily supported media effects research as well as scholars interested in the medium's relevance for sociology, anthropology, and fan studies. Ultimately, I suggest that while the past decade has begun to see a range of nuanced conceptions of digital game audiences, very few of these have incorporated the role of the digital game industry in these conceptualisations and fewer still have broached the complex relationship between industry and audiences.

Finally, I position my own research within these traditions to engage with established debates as well as fill gaps where new work is needed. Situated within the concept of the institution, I hope to enhance pan-media depictions of the media landscape that glaringly omit an increasingly significant medium as well as bring together the traditions of audience- and industry-based research in a manner that has yet to be investigated in the still underdeveloped field of digital game studies.

Media Effects

Concern over media effects long pre-dates the medium of digital games and many of the details of this tradition are well beyond the relevant scope of this project. There are numerous reviews of media effects studies that outline the history of this tradition (see Ruddock, 2001; Staiger, 2005; Gauntlett, 2005), including many that focus on violence (Barker and Patley, 1997) and on digital games (Buckingham, 2008). For my purposes here the focus is on how this tradition conceptualises audiences and the ways it has impacted on other approaches to studying digital game audiences.

Much of the modern mode of media effects scholarship can be traced back to post-war mass communication scholarship following the multi-stage "transmission model" advanced by Lasswell that parsed out "who says what to whom to what effect" (1948). This model posits a linear, one-way relationship between the message sender and receiver. The most purified approach to audiences in this tradition is the "hypodermic needle" or direct effects model (Gauntlett, 1996: 40-41), which suggests that media messages are injected into audience members with little to no resistance and with complete effect. The audience in this model is extremely passive and helpless to the messages programmed by media producers. While the radical claims of this model have been largely dismissed, the conceptualisation of the audience as mostly passive and susceptible to programmed media messages has remained in many of the causal arguments made by later proponents of behaviourism and cognitive psychology. Moreover, this conceptualisation is especially vigorous in studies concerned with subjects that are more generally viewed as especially susceptible, most notably children.

Media effects studies are therefore especially relevant to the medium of digital games for a number of reasons. The medium has historically been linked to children, a perception that continues today despite gaming's widespread use by adults and thus ensures its inclusion in studies aimed at determining media effects on children. Digital games are also still a relatively new medium, meaning any effects it may have are still uncertain and long-term longitudinal studies have yet to be performed, leaving ample room for conjecture and discussion over possible effects. Furthermore, the medium is built on and continues to be a

major site of interaction between people and new technologies, leading to its incorporation in broader anxieties over the role of technology in today's world. Finally, media effects studies are often heavily represented in policymaking decisions in media generally and specifically with regard to digital games.

Media effects studies concerning digital games are numerous, with the most visible looking at issues of aggression and violence (Anderson, Gentile, and Buckley, 2007; Grossman and de Gaetano, 1999; Ballard and Wiest, 1996; Eastin, 2006), but also covering a variety of other issues such as its impact on child development (Subrahmanyam et al, 2001). These psychological studies largely conceptualise audiences as passive viewers, vulnerable and incapable of resisting the content and messages contained in media. More specifically, these studies follow in the effects tradition of focusing on children, here both reflecting and reinforcing broader societal conceptions of digital games audiences as children.

These conceptions of gaming audiences as young and passive also structure much of the discussions of the beneficial effects of gaming. This approach emphasises the educational value of games as a way to support traditional educational goals like literacy (Gee, 2003) or maths skills (Okolo, 1992) along with side benefits like improved hand-eye coordination (Subrahmanyam and Greenfield, 1994). Furthermore, skills that may originally have been seen as side benefits are now widely accepted as requisite knowledge in an increasingly computerised society. Education effects studies cover such disparate topics as improving youth diabetes care (Brown et al, 1997) and training surgeons (Rosser et al, 2007). While still often undertaken by psychologists, early work in this field was also promoted by scholars trained in education, such as James Paul Gee. Even within education, however, there was nothing resembling consensus, with Eugene Provenzo (1991), for example, seeing children's attachment to digital games as a barrier to traditional educational methods and, following the "effects" model, focused instead on violent content. Regardless of their value judgements, the conceptions of the audience remained much the same as that of those working within "effects," namely conceptualising game players as children who are readily influenced by media.

Criticisms of effects models in general (including both educational and harmful effects research) have come from both the humanities and other social scientists (Gauntlett, 1998; Freedman, 2002; Seiter, 1999) who dispute methodology, selective application, and lack of emphasis on media meanings among other issues. This variety extends to critics of digital game effects arguments (Kutner and Olson, 2008; Ferguson et al, 2008; Boyle and Hibberd, 2005; Buckingham, 2008) who do not necessarily dispute the possibility of digital games having effects, but view existing scholarship as inconclusive and in need of further study.

Beyond their mere existence, it is crucial to consider the context surrounding both the undertaking of media effects research and the situations in which media effects research is called upon as evidence. Both with regard to digital games and media more generally, there is a tendency to turn to media effects arguments during periods of moral panics. Major youth violence incidents in both the US and the UK have directly led to government reviews of media effects research, most notably following Columbine and the *Manhunt* (2003) murder. While the motivating circumstances for these reviews are very similar between the nations, the difference in methods and response are representative of the North American reliance on definitive causal effects arguments while British (and European) response tends to see this research as inconclusive and instead opt for a more complex view of effects.

With regard to the UK, the Byron Review provides a concise view of how audience, industry, academia, and government intersect with regards to digital media in the UK. Commissioned by the Prime Minister, the report's foremost goal was to assess the safety of children's interactions with digital games and the internet. However, it is important to note that this study emerged out of the controversies surrounding a youth murder linked to the game *Manhunt*, with the report arriving in the midst of a failed attempt to ban the game's sequel, *Manhunt 2* (2007). Despite these origins, the Byron Review generally adopts an open approach to both audience and industry, largely due to the UK's established view of media as containing the potential for public service, rather than the US's conception of media as primarily product. Digital games and the internet are seen here as playing multiple roles in people's lives today, some negative and some positive (Byron, 2008: 19-

21). The emphasis is on how audiences navigate this content, rather than attempting to alter or segregate this content. This view conceptualises audiences as active participants capable of critically evaluating media content rather than the passive audience of much laboratory research.

In terms of academic background, the study's namesake, Dr. Tanya Byron, is a clinical psychologist, while contributing researchers provide a broad range of viewpoints and backgrounds. Research conducted and consulted during the review included both qualitative focus group research and quantitative analyses (Byron, 2008: 17-18), but of primary interest here is the study's approach to audiences and view of American media effects research. Specifically, the Byron Review describes the dichotomy between Active Media and Active User approaches as nationally inflected, with the former emerging from US laboratory research to investigate direct effects of media on users, while the latter guides UK research using qualitative studies to emphasise user interpretations of media (Byron, 2008: 146). David Buckingham's literature review on the subject (2008) sees this as an "impasse" between cultural studies and psychological effects researchers, with both sides neglecting the arguments of the other.

The Review, supported by Buckingham's literature review, ultimately concludes that there is little solid evidence to support media effects arguments on either side, making it "difficult to base policy responses on such polarised research evidence" (Byron, 2008: 151-152). Despite taking this cautious view towards either view of effects, the overall tone of the study is more in line with the Active User tradition in acknowledging the varying ways children interact with digital games and the variety of possible effects this can have. Furthermore, the author's attitudes concerning the most condemnatory US media effects research is vehement, with Byron stating that "it is vitally important that the sole or primary cause of violence or other behaviours such as excessive use in children is not identified as the media or video games per se" (158). Only by taking into account the wide range of contextual factors that contribute to effects involving media consumption is it possible to determine what role media themselves are playing, which simply does not conform to the restrictions of laboratory research.

The Review's methodological approach to audiences is certainly active, with Byron seeking out input from audience members themselves, placing "children and young people at the heart of [the] Review" and endeavoring not to speak for children, but to "reflect their opinions" (212). Byron solicited children's opinions on their own media usage in a variety of ways, including a Children's Call for Evidence to parallel the general call and even going as far as running a contest asking children for their own suggestions on how to solve the study's goal of developing strategies for staying safe in a digital world. This audience-centric approach to research is mirrored in similarly child-focused recommendations, with the report suggesting "children and young people need to be empowered to keep themselves safe – this isn't just about a top-down approach" (2).

Similarly, the study includes the digital industry in the discussion rather than assuming their goal to be exploitative, with the report suggesting that this input was "thought provoking, robust, and helpful" and that those industry members involved played a significant role in "help[ing] shape the Review's direction and development" (213). Furthermore, the interaction between audience and industry is depicted as a two-way process, with the report suggesting "the voice of better informed parents should then drive industry investment and continued innovation around child safety in video games" (142). A key word here is "voice," which depicts parents as vocal citizens in dialogue with the industry, rather than as commoditised entities "speaking" with their dollars in the marketplace. Thus, the policies encouraged by the review should not only benefit citizens by protecting their interests and making their voices heard, but also stimulate the industry to acknowledge and incorporate these interests into future products. These recommendations occur in a variety of contexts, from industrial campaigns, parental involvement and information, increased media literacy in the education system, and alterations to regulatory policies (12-13). Thus, industry and audience exist here in a larger open system with both entities best served by continual negotiations and open conversations to balance audience concerns and industry function, played out across a range of integrated institutions.

In contrast, the United States Congress' investigation of media violence following Columbine focused on condemning popular and youth culture, with digital games one of

the most prominent targets. Henry Jenkins has characterised the Congressional hearings, where he was called to testify as the only academic defending games and youth expression, as part of a "national witch-hunt to determine which form of popular culture is to blame for the mass murders, and video games seemed like a better candidate than most." Jenkins' considers his testimony as an alternative to "how reductive the media effects paradigm is as a way of understanding consumers' relations to popular culture" (Jenkins, 2006b: 187-197). The government, however, relied upon these media effects scholars, like Grossman (2007), for evidence, with Jenkins the only academic expert not from this vein.

The goal of these and other American hearings on media violence is typically focused on regulation of media rather than other outcomes like the push for media literacy found in the Byron Review. However, countless attempts to regulate violent digital games have failed in the United States, not for lack of trying, but due to constitutional conflicts surrounding the first amendment (see Kendrick v. American Amusement Machine Co. and Interactive Digital Software Association v St. Louis County). The Supreme Court is currently deliberating on the topic and could potentially settle this issue in the coming months (Schwarzenegger v. Entertainment Merchants Association). Academic perspectives on the issues are rarely sought unless serving the motivations of those promoting legislation, with regulators more likely to seek advice from anecdotal sources (Blevins and Anton, 2008) or other government studies than those produced by academics.

Columbine had just this type of direct impact on government studies of media violence and industry self-regulation, with the Federal Trade Commission's Lee Peeler testifying before a House subcommittee that

> "Revelations that the teen-aged shooters at the 1999 Columbine High School shooting had been infatuated with extremely violent movies, music and video games led to Congressional and Presidential requests that the Commission investigate and report back on the practices of the movie, electronic game, and recording industries with respect to the marketing of violent entertainment to children" (Federal Trade Commission, 2002).

These "revelations" led directly to the production of four FTC reports between 2000 and 2002, with the primary report "Marketing Violent Entertainment to Children: A Review of

Self-Regulation and Industry Practices in the Motion Picture, Music Recording & Electronic Game Industries" being continually reviewed through the present day[1]. Regardless of their findings, this governmental strategy for addressing what many consider to be a valid area of concern is extremely limited. Peeler admits near the end of his testimony that

> "Because of First Amendment and other issues, the Commission continues to support private sector initiatives by industry and individual companies to implement these suggestions. To encourage continued voluntary compliance and to document any changes in self-regulatory efforts, the Commission will monitor the entertainment industry's marketing practices through the next year, and will then issue a follow-up report."

At least in this case, the result of government reports is simply more government reports, though certainly with the side benefit of placing increased visibility and pressure on media industry self-regulation.

Ultimately, the US government's approach is one that is built on the embedded assumption that digital games ought to be regulated, but with little discussion given to why or in what ways the potential harms of interaction with the medium could be mitigated. Thus, in sharp contrast to the approach taken by the Byron Review, regulators have conceptualised audiences as passive and susceptible in a fashion that is completely in line with media effects scholars. These two regulatory examples show the reach of media effects scholarship beyond the academic arena with felt effects on policy decisions which in turn impact on people's lives. Therefore, even though my research is not in the first instance concerned with media effects, the strength and ubiquity of these discourses undeniably structures arguments, perceptions, and material circumstances that play distinct roles in the process of conceptualising digital game audiences.

[1]All FTC reports on the matter are freely available on the FTC website: http://www.ftc.gov/reports/index.shtm.

Active Audiences

In contrast to media effects traditions' conceptualisation of audiences as passive and immature, active audience approaches suggest that audiences engage with media in a variety of ways and play a significant role in the production process itself. Like media effects, this approach to audiences is far older than the medium of digital games, but nevertheless has played a significant role in structuring arguments about gaming audiences.

Early active audience theories, particularly in the field of communication, looked to complicate established models of communication. Uses and gratifications theory (Rubin, 2002; McQuail, 1998; Blumler and Katz, 1974) is one such approach that researchers still use today to study topics including digital games and the internet (Sherry et al, 2006; Ruggiero, 2000; Jansz and Martens, 2005). This model suggests that audience members don't blindly adopt the intended messages in a piece of media content, but instead look for messages that serve a purpose or give satisfaction on an individual level. Meaning-making power, traditionally held by the sender, here shifts to the receiver with interpretation privileged over intentionality. Critics of uses and gratifications, however, argue that this shift is too extreme, resulting in an overly individualistic theory that too heavily downplays social context while overstating audience control over media choice and access (Elliott, 1974; Ang, 1995; White, 1994; Wimmer and Dominick, 1994).

This change of focus from producer to consumer continued with the emergence of cultural studies. Stuart Hall's theory of Encoding/Decoding (1980), for example, addresses the criticisms leveraged against uses and gratifications theory by arguing that media texts are both constructed and consumed, but that these two actions are separate. The producers' intentionality is thus built into a text and available for audience reading, but this does not mean that audiences will do so. Instead, in this model audiences are independent entities that come into contact with products created by cultural industries, but have freedom to interpret the messages contained in them in ways unconstrained by industry intentionality. This posits a reading process that does not occur in vacuum, but is a sociocultural process that takes into consideration the context of reading as well as the specifics of the individual viewer or groups of viewers.

Without delving too deeply into the vast history of cultural studies (see Turner, 1996), it is nevertheless necessary to mention this tradition's engagement with a number of significant cultural theorists. In particular, Michel Foucault's writings on power (1977; 1979; 2001) cast social and industrial activity in terms of discourse, with power not imposed top-down, but emerging "from below" in a relationship that considers resistance "never in a position of exteriority in relation to power" (1979: 94-95). The work of Pierre Bourdieu was also influential in looking at audiences within hierarchical yet fluid social structures governed by economic frameworks, particularly through his ideas of cultural capital and the habitus (1984; 1986; 1993). Finally, Antonio Gramsci's concept of hegemony emphasised a negotiated struggle between dominant social forces and those from which they must constantly win consent (1971). In all of these cases, audiences are conceptualised as active agents engaging with media texts within a cultural setting, with the difference being the degree to which they are able to exert themselves against media producers. Gramscian readings tend to emphasise the negotiated aspect of the consent-winning process, whereas those drawing from Foucault and Bourdieu are more likely to see audiences constrained by discursive power or established hierarchical structures. Regardless, audiences and media producers (including the industry) are embedded in one sociocultural system in a complex and persistent process.

The focus on non-mass, non-dominant audiences as emphasised by many cultural studies scholars leads into two other interconnected traditions that are especially relevant to digital games: studies of subcultures and fan studies. While digital games may today be a massive entertainment business, it has long held a subcultural status for a significant portion of its audience, as well as being perceived as a subcultural medium by society at large. Studies of subcultures (Hebdige, 1979; Gelder and Thornton, 1997; Muggleton and Weinzierl, 2003) are relevant when considering issues like the conflict between the medium's increasing social visibility and its established subcultural associations. In particular, Sarah Thornton's (1995) reading of subcultures as governed by subcultural capital that is simultaneously separate from and incorporated within broader cultural capital adds more nuance to the system developed by Bourdieu. This foregrounds the added complexity

implicit in subcultures that both academics and industries must negotiate when attempting to conceptualise digital game audiences.

Fan studies is closely related to studies of subcultures, encompassing a range of methodological approaches and reaching across the spectrum of entertainment media (Hills, 2002; Gray, Sandvoss, and Harrington, 2007; Lewis, 1992). Henry Jenkins' *Textual Poachers* (1992) describes many of the standard practices of this field, in the process conceptualising fans based on their engagement with and activities surrounding media rather than any other defining characteristics. This is not to say that issues of gender, race, class, or sexuality are unrepresented or unimportant (on the contrary – they are very often the focus of specific studies of fans), but in all cases the unifying feature of fan communities is their dedication to media.

Jenkins and others following this tradition portray fan media consumption not only as extremely active but more importantly, productive, both through expressive fan creations external to standard media and by making an impact on the production of the very texts of which they are fans by giving content producers feedback. This production helps establish a distinct fan culture while being itself structured by and reflecting broader cultural forces. John Fiske (1992) looks to Pierre Bourdieu to expand this idea, arguing that fan activities, like any other cultural activity, are still structured by cultural capital and thus exist alongside production (including that done by industrial forces) in one unified system. Scholars of digital games have applied these ideas to many of the established aspects of fan activity, including fan media production (Lowood, 2006; Consalvo, 2003; Postigo, 2007), community events (Chee, 2006), performativity (Crawford and Rutter, 2007), and expression (Albrechtslund, 2010).

The role of the audience in the production of culture is certainly not limited to fans however, as Henry Jenkins discusses in *Convergence Culture* (2006a), which charts the increasing intersections between media consumers and producers on a broad scale. He specifically states, "Rather than talking about media producers and consumers as occupying separate roles, we might now see them as participants who interact with each other according to a new set of rules that none of us fully understands" (Jenkins, 2006a: 3).

The process of convergence, which occurs in the intersecting realms of production, consumption, technology, and regulation is not a clear or clean process, nor one with anything resembling a predictable outcome. Jenkins contends that this process is contradictory, working as "both a top-down corporate-driven process and a bottom-up consumer-driven process" that "sometimes…reinforce each other" and "sometimes…are at war," and that "those struggles will redefine the face of American popular culture" (Jenkins, 2006a: 18).

Convergence Culture provides a powerful framework for investigating the relationship between media audiences and media industries, but with a scope much broader than conceptualising audiences. Thus, this specific process is often lost in the larger shuffle, as is the entire medium of digital games, which is rarely mentioned. What this approach does offer, however, is a suggestion that the conceptualisation process must be one that is highly contested and performed not by either producers or consumers, but by both groups together.

As an evolution of active audience theories, *Convergence Culture* emphasises the more general shift towards considering audiences and media producers as inextricably linked through a collapsing production/consumption process. For the industries then, the importance of clearly understanding and engaging with integral audience groups places even more weight on the process of conceptualising these audiences. Thus, more thorough research into the nature and implications of this process stands to benefit producers, audiences, and policymakers as they all attempt to navigate this complex and rapidly-evolving intersection of production and consumption.

Media Industry Studies, Production Studies, and Political Economy

While media effects and active audience research both emerge primarily out of studies of the audience, the vast body of research centred on the media industries is equally important here. Despite this shift of focus, many post-war studies of media industries conceptualised audiences in much the same way as those researchers in the media effects field – as largely passive consumers of content. However, political economy offers one of the most

productive methods for evaluating public policy regarding the digital game industry and is thus extremely significant with regard to industrial conceptualisation of audiences.

Perhaps the most influential thought on the subject in the post-war period comes from Horkheimer and Adorno's writings on the culture industry, which positioned each audience member as "subservient to his adversary – the absolute power of capitalism" (1972: 120). Here, the culture industry, particularly as associated with popular media, is a singular and malicious entity that will resort to any tactics available to deceive and manipulate for economic gain regardless of the consequences. In this model, the industry (and potentially the authors) conceptualises mass media audiences as little more than powerless potential profits.

Louis Althusser's Marxist take on the cultural industries provides a less scathing critique, instead embedding them into his concept of Ideological State Apparatuses (ISAs) as structures that reify dominant ideologies without the use of government force in order to "reproduce the condition of its production at the same time as it produces" (1971: 128). What is most relevant here about Althusser's approach is that it offers a method by which ISAs interact with audiences in the form of interpellation. This is the process by which ideology, in this case as circulated by the cultural industries, transforms individuals into subjects through address (1971: 174-176). The cultural industries here are part of a larger system governed by ideology that structures subject positions with the ultimate goal of sustaining production, but without any malicious intent of their own. As such, both industries and audiences are susceptible to and interact as dictated by broader ideological currents, with significant implications for individual identity.

Along these lines, Dallas Smythe argues that the media industries primarily produce not texts or messages, but an "audience commodity" that is created and sold by institutional stakeholders. Smythe's Marxist approach focuses on "audience power" as a form of labour extracted during "leisure" hours that has delayed and uncertain, yet real, material effects (eventual consumer purchases benefiting advertisers) (Smythe, 1981). The concept has become embedded in political economic discussions of the audience, updated over the years to acknowldge that actual viewers do find benefits in television viewing along with

their labour contributions (e.g. Jhally and Livant, 1986) and continuing to find use today with relation to such topics as mobile communication devices (Manzerolle, 2010) and interactive television (McGuigan, 2012).

Eileen Meehan's usage of the term is perhaps the most relevant here, expanding the focus to look not just at the shape or functions of the audience commodity, but the ways that institutional forces construct this commodity, namely through ratings and measurement systems (1984). In making this theoretical shift towards a commodity based on abstracted ratings, Meehan ultimate argues that "television's commodity audience had nothing to do with the people who watched television" (2002: 214). This does not miminise the relevance of identity in the audience commodity, but rather emphasises the way institutional measurement systems embed sociocultural biases and power relations into their structures. For Meehan, the systems constructing these audiences "shape corporate decisions" such that "television is structured to discriminate against anyone outside the commodity audience of white, 18-to-34-year-old, heterosexual, English-speaking, upscale men" and that "[w]hatever amenities or pleasures television offers to viewers outside *the* commodity audience, television is an instrument of oppression" (2002: 220-221).

Another strand of political economy focuses less on the industries' ideological role in creating audiences than on its material structure. The tail end of the twentieth century saw a rising academic concern over the transforming size, shape, and diversity of the media industries as trends like deregulation and conglomeration became widespread (Bagdikian, 1983; Herman and Chomsky, 1988; McChesney, 1997). While work in this strain has found much support for its descriptions of the social consequences of economic and policy shifts, the process of audience conceptualisation is generally not a priority for these scholars, with individuals holding very little power in the fight against enormous corporations. However, implicit in this work is the idea that, while audiences are mostly passive and conceptualised solely as exploitable markets by the industry, they deserve recognition as citizens and unique human beings. Despite any criticisms, political economy remains a valuable source of traditions for critical analysis of industrial functioning and is one of the few academic media approaches that critically interprets media policy.

David Hesmondhalgh, however, finds a critical fault with what he sees as a disconnect between production and consumption for these political economy scholars. Instead, his "cultural industries" approach, while focused primarily on production, addresses these issues by linking audiences directly to producers. He states, "the cultural industries approach sees the business of cultural production as complex, ambivalent and contested largely because of certain problems derived from the way *audiences* behave. Production and consumption are not seen as separate entities, but as different moments in a single process" (2007: 36). This model is thus much more useful for considering the role audiences play in guiding production.

Despite this bold approach that in many ways mediates his specific form of critical political economy with the active audience approaches described earlier, the rest of Hesmondhalgh's lengthy survey of the cultural industries reverts to focusing extremely heavily on industrial functioning with very little commentary on the role of audiences in this process. Furthermore, the author leaves the digital game industry nearly untouched and open for further study, briefly covering it before concluding that "they do not represent a significant shift in the prevailing structures and organisational forms of cultural industries generally" (2007: 246).

Philip Napoli similarly neglects digital games, but succeeds in outlining an invaluable framework for looking at industrial methods of conceptualising audiences. Napoli focuses on the "institutionalized audience," which he describes as "the audience exclusively as conceptualized through the particular set of practices, behavioral patterns, and analytical orientations and priorities that characterize the operation of media industries" (2011: 3). His focus sits squarely on the industrial forms of conceptualising audiences, looking at how this process has changed in the face of radical shifts towards increased "audience autonomy" and "audience fragmentation." Napoli grounds these trends in changes to technology, perhaps to a fault, but with the benefit of being able to describe functional changes. What is significant is Napoli's contention that technological changes don't just affect industrial practices, but the very means by which they come to conceptualise their audiences. These methods and tools of conceptualisation, specifically new forms of market

research, respond to technological and sociocultural shifts, but then go on to themselves shape production in ways that results in sociocultural change.

Thus, the process of conceptualising audiences is a crucial part of the cycle of production and consumption where industries simultaneously shape and are shaped by sociocultural evolution. While Napoli's book ostensibly describes the most significant technological changes in media today, he neglects to even mention an entire medium that has for decades been part of the most aggressive technological advances as well as a major site at which many people interact with technology, leaving room to both apply and alter Napoli's framework to a medium with a unique industry-audience relationship.

Another relevant body of work closely linked with media industry studies is that described as production studies. Mayer, Banks and Caldwell subtitle their book on this field as "cultural studies of media industries," but also seek to "conceptualize practices within the political economy of labor, markets, and policy" (2009: 3). As these authors argue, production studies emphasises a closer look at the workers creating media, but also a constructionist view that examines "how media producers make culture, and, in the process, make themselves into particular kinds of workers in modern, mediated societies" (2009: 2). Mark Deuze takes a similar approach, investigating "what it is like to work in the media today, and how the particular organization of work shapes the professional identity of those employed in the creative industries" (2007: xi).

For Deuze, these experiences are governed by a "liquid modernity" that makes it increasingly difficult to differentiate public from private, global from local, and play from work. As such, media work is increasingly defined by precarity and contingency, with workers continually uncertain about their job stability, and deterritorialised and globalised as workers are readily expected to uproot and embed themselves in various geographic and cultural settings. These jobs are also heavily technologised even in industries less techno-centric than digital games, but at the same time, more personalised, with workers increasingly expected to invest more of themselves in their work, blur the lines between work time and personal time, and take more personal control over the trajectory of their careers (2007).

For this strain of media industry studies, understanding the role of the media worker in a technical sense is an absolutely critical part in being able to understand media, media organisations and social life more broadly. This approach is a major part of this thesis, focusing not only on how media workers understand their audiences, but how these conceptions of players emerge out of and structure production routines and lived production experience.

Generally, production studies privilege film and television production, with Deuze being a notable exception for regularly including digital games in his view of the media landscape. While there clearly a number of significant established and emerging traditions for studying the media industries, academic studies of the digital game industry are scarce, with journalists providing many of the industry-focused historical overviews (Kent, 1993; Donovan, 2010) and specific corporate case studies (Takahashi, 2002; Sheff, 1993). Significant exceptions provide provocative readings of the gaming industry (Kline, Dyer-Witheford, and De Peuter, 2003; Dyer-Witheford and De Peuter, 2009; Johns, 2006), but these studies are far too scarce for what is a crucial aspect of the medium.

Scholars of the media industries have begun to realise the significance of the medium and incorporate the digital game industry into their pan-media approaches (which has accelerated to some degree as media conglomerates based in traditional media have established digital game production and distribution arms), but this still largely involves pan-media approaches established prior to consideration of the specificities of gaming. Therefore, it is imperative that scholars versed in the functioning of the medium contribute to these pan-media political economy and media approaches. At the same time, political economy and cultural industries approaches to industrial functioning and policy impact have much to offer the study of digital games, which has been slow to address these aspects of the medium.

The Structure of the Digital Games Industry Production Network

As I have just indicated, while political economic analyses of the digital games industry are few and far between, the work that does exist is crucial to this thesis. This section

examines some of the relevant literature, most notably the global production network approach, to contextualise the structure and shape of the current digital games industry within which playermaking occurs. While the focus here is on digital games, this network approach emphasises the interconnectivity and linkages not only between different stakeholders within the games industry, but also across the media industries as a whole. The global nature of this network will be discussed in far more detail in chapter seven, which examines the national contexts for the broad industrial systems described here.

Before delving into the differentiations between the numerous institutional stakeholders, it is necessary to clarify the definition and scale of the "digital games industry" used throughout this thesis (for a more detailed discussion of the digital games industry, see Zackariasson and Wilson, 2012). Aphra Kerr follows Hesmondhalgh's approach to conceptualise digital games as a cultural industry like film, television, and newspapers that is focused on the "production, distribution and circulation of meanings via symbolic forms" and characterised by significant levels of risk, high production but low reproduction costs, and the "semi-public good nature of cultural products and services" (Kerr, 2006: 44-45). This thesis takes a similar, broad view that includes all companies and actors that primarily produce, distribute, and circulate meaning through digital games.

However, there are relevant boundaries and distinctions relevant to this definition. Casey O'Donnell clearly argues that while the digital games industry has historically been associated with the software industry, today they differ drastically in terms of their structures, working processes, and cultural implications (2012b). Similarly, Stephen Kline, Nick Dyer-Witheford and Grieg de Peuter take a historical materialist approach to describing the industry, tracing its emergence out of military experimentation and hacker subcultures before beginning to be absorbed into existing transnational entertainment corporations and institutional structures in the 1970s. This transition was followed by the collapse of the American games market in the early 1980s, opening the door for the arrival of Japanese powerhouse Nintendo (2003). Combined, this has meant that the while the modern games industry is most clearly aligned with other entertainment media industries, it has a deeply embedded global dimension and has retained traces of its roots to and structural linkages with the military, software development, and the toy business.

As such, today's digital games industry is a global system with major stakeholders from a variety of backgrounds and original industries, with the most significant concentrations of both games companies and gaming markets occurring in the United States, Europe, and Asia. Many of the major transnational entertainment conglomerates headquartered in the US are involved in game development and publishing, such as Disney and Warner Bros. The US is also home to both Microsoft and Apple, who only established their dominant positions in the games business after becoming major players in the technology sector, as well several of the largest independent companies solely focused on games, like Electronic Arts and Activision Blizzard. This North American industry (which includes increasing numbers of large development studios in Canada) is responsible for approximately 30 percent of global game production (O'Donnell, 2012a: 99).

European game production occurs to some degree in most countries, with France housing Ubisoft, one of the largest global game publishers, and particularly significant development studios in Germany, Iceland, and all of the Scandinavian countries. The UK is home to an especially large number of game developers who create some of the most popular exported game titles and a particularly large national market of gaming consumers, but few game publishers and a conflicted relationship with transnational corporations. Aphra Kerr (2012) cites the UK's historical focus on home computer programming, a strong public and educational rather than commercial gaming tradition, and the disruptive impact of foreign companies in the 1990s as shaping the current national industry's struggles with global competition and labour shortages, which will be discussed in more detail later in this thesis.

The final location of key industry stakeholders are in the Asia-Pacific region, with the presence of game-focused Nintendo and global media conglomerate Sony making Japan the region's dominant force in terms of the home console and handheld game production and market. That said, Dal Yong Jin emphasises the significance of South Korea as one of, if not the single most, important country in the world in terms of producing and playing online computer games, with their national industry becoming increasingly global in scale (2010). Likewise, China has an enormous emerging market of game players, particularly for online games, as well as technology and media giants like Tencent who operate on a

global scale and have acquired or purchased significant stakes in major game developers and publishers in the rest of the world.

As this brief overview has indicated, convergence, concentration and conglomeration have made it difficult to separate distinct media from the intertwined industrial system, and as such a particularly strong strain of political economy focuses on media production today as part of the "network media industries" (Benkler, 2006; Winseck, 2011) within the broader "network society" (Castells, 1996). The digital games industry is just one component of these more general media production networks, structurally integrated within global conglomerates operating across media formats and functionally within the production, distribution, and sociocultural networks through which all types of media flow.

Kline, Dyer-Witheford and de Peuter argue that these overarching networks are intrinsically based upon global economic systems, with digital games being the "ideal commodity" for "post-Fordism," (2003: 74) exemplifying the contingency and volatility of simultaneously competing and coordinating circuits of marketing, culture, and technology. Underpinning each of these interlinked circuits is the circuit of capital, resulting in "a historical moment when cultural processes, market growth, and technological innovation have been assimilated into the ensemble of management practices that are focused on fostering and exploiting the dynamism that is created *between* these circuits in a wired marketplace that is beset with instabilities in meaning and identity" (2003: 58-59, emphasis in original).

Dyer-Witheford and de Peuter expand on this approach in their adoption of Hardt and Negri's concept of "Empire" (Dyer-Witheford and de Peuter, 2009: xxiii), arguing that "*video games are the paradigmatic media of Empire* – planetary, militarized hypercapitalism – *and* of some of the forces presently challenging it" (2009: xv, emphasis in original). The authors specifically note the planetary and global dimensions of Empire, stressing that the distribution of power is linked to economic dominance, and noting that "[g]ame culture is thus heavily concentrated in the developed, rich zones of advanced capitalism" (2009: xvii). Drawing on Deleuze and Guattari, they argue that the history of digital games emerges out of US military technologies as a deterritorialisation "from the

realm of nuclear death" only to be reterritorialised "by capital in pure commodity form" (2009: 10). The immense influence of Japan in particular, especially in revitalising the US games market in the 1980s after the North American crash, has meant that digital games are "the first media in which US Post-World War II hegemony over global culture was decentered toward a more complex, diffuse capitalist order" (2009: 17).

Mia Consalvo echoes this sentiment, arguing that digital games are an especially "hybrid" medium. While Consalvo is focused on the interplay between American and Japanese business and culture, more generally she argues that "[t]he particularities of the video game industry and culture can be recognised in the transnational corporations that contribute to its formation and development; in the global audience for its products; and in the complex mixing of format, style and content within games. Further, the culture, although hybrid, avoids becoming homogenous (perhaps is incapable of becoming homogenous) because the demands of the local still shape cultural products as they travel around the world" (2006: 120).

Despite this emphasis on globalisation, Amelia Arsenault argues that "the rise of networked forms of organisation means that no corporations are truly global and few if any are truly local, nor can they be examined in isolation." Instead, a "global core of communications networks" has emerged consisting of a number of concentrated, diversified, and flexible conglomerates that "simultaneously compete and collude on a case-by-case basis according to their business needs. Levels of competition increase or decrease according to the exigencies of particular markets" (Arsenault, 2011: 106-112). Within this type of system, "global corporations need to tailor their products to local conditions, while local or regionally based companies need access to the global core to market their products internationally... The linkages between global corporations and local and regional companies are thus a mutually beneficial process for all of the parties involved" (2011: 116).

While the digital games industry is just one component within this broader media production network, even when viewed in isolation the production of digital games involves numerous stakeholders in a complex global system. Thus, the organisation of the

digital games industry involves a matrix of companies with different roles and imperatives in the life of a game product.

One starting point is with *developers*, the companies directly involved in the production of game content (traditionally: software). These companies are commonly categorised by their relationship with platform holders (who will be discussed shortly, and traditionally have been hardware-based). First-party developers are internal, wholly owned studios such as Rare Ltd. owned by Microsoft, Retro Studios owned by Nintendo, and Media Molecule owned by Sony. Some studios that are formed by platform holders rather than acquired often are named after the platform holders, such as Microsoft Game Studios or Sony Santa Monica, though this is not always the case (e.g. 343 Industries). Second-party is a less common term, typically referring to development studios working on projects for platform holders in a contractual or exclusive arrangement (e.g. Eat Sleep Play, Quantic Dream).

Third-party developers are independently owned and may create projects for any available hardware or software platform. Their production may either be general or involve collaboration between specialised companies on different aspects of a single title. This specialisation may involve development tools or engines (Unity, Havok) or be service orientated with companies focused on development specialities like sound (Wave, OM), animation/CGI (RealtimeUK), localisation and testing (Testronic, Triple A Testing), and monetisation (Adcash, inComm). More often, third-party simply refers to independently-owned developers responsible for core game creation (examples include Epic Games, Double Fine Productions, Harmonix, and Frontier Developments) with specialised companies referred to by their specialities rather than as third-parties.

Finally, also worth mentioning are so-called “indie” developers, an extremely vague, ideologically motivated term for a subset of third-party developers, colloquially referring to small or micro-studios (such as Supergiant Games, 2D Boy, Team Meat, or Introversion Software) but also at times confusingly used simply to refer to any independent studio regardless of size. While many “indie” studios rely on a rhetoric of independence and freedom of development, the financial constraints of game creation mean that in practice this is only variably applicable. Certainly some independent developers work only on

"passion projects" made with independent funding, but a large portion of these companies are actually dependent on contract work from larger developers or publishers to make ends meet, embedding them deeply into the functioning of the institutionalised production chain. As such, the term "indie" is as complex as has been described in relation to other media industries (Newman, 2011; Perren, 2012; Hibbet, 2005).

Once game content has been created, it must then be published onto a platform. This traditionally has involved dedicated game *publishers* who handle broader production tasks such as marketing, manufacturing, quality assurance, and distribution. Large publishers like Electronic Arts and Activision Blizzard have their own stable of internal development studios (like Bioware and Criterion Games for the former, and High Moon Studios and Toys For Bob for the latter) as well as offering publishing deals for independent developers through initiatives like the "EA Partners" program or individually negotiated agreements. With the high cost of many publishing-specific tasks, game publishers also typically serve as "the bankers of the games industry" (Kerr, 2006: 64). They assume a great deal of the marketplace risk, but with the benefit of spreading this risk across a broad portfolio of funded projects at various stages of development.

Games eventually are published onto a platform, the system upon which many different games can be published and played. These can be hardware platforms, like the Xbox 360, PlayStation 3, Wii, Personal Computer, or iPhone. Alternately, they can be software platforms that leverage specific code bases, technological controls, and digital marketplaces, but which may or may not appear on a variety of hardware devices, such as Facebook, Steam, Xbox Live Arcade, Origin, PlayStation Network, or the Mac App Store.

Platform holders are typically a hybrid entity not only controlling the shape of the necessary gaming hardware but incorporating development and publishing arms as well. Microsoft, Sony, and Nintendo all follow this pattern, though more recent platform entrants like Apple, Google, and Facebook have opted for a comparatively open publishing system and are not directly involved with development. This openness, however, results in a complete reliance on the fortunes of third-parties, with the danger being situations like that of Facebook who have relied heavily on a single company, Zynga, for around 10% of

their overall revenue, leaving them vulnerable to the successes and failures of a single external entity (see Constine, 2012). In general, platform holders are primarily concerned with the health of their gaming platform, incorporating broad views of players of all games on their platform as well as those potential players who have not yet decided to join in.

Finally, *retailers* control the game product at the point of sale, putting games into players' hands and enabling the economic transactions of this exchange. Traditionally, these retailers have been physical stores, either dedicated to games (like GameStop in the US and GAME in the UK) or merely stocking them among other goods at outlets ranging from the entertainment-focused Best Buy or HMV to multi-purpose supermarkets like Walmart and Tesco. In the past decade, however, games retail has increasingly shifted away from brick-and-mortar and towards online retailers like the multi-purpose Amazon, entertainment-focused Zavvi, or game-specific ShopTo with physical retailers following suit in migrating their business online.

Together, these different stakeholders make up the core of the digital games industry, though they admittedly do not encompass all of the active agents enabling the network to function. Throughout this thesis, especially in the latter portion, the interactions and negotiations between these stakeholders will come to the forefront in determining how the playermaking process occurs across the industry. Rather than a coherently linear process, playermaking occurs within this networked system and thus reflects the complex institutional and sociocultural dynamics governing the operations of each individual type of company along with the network as a whole. The players that result, then, have different applications depending on where within the network they have been constructed and to what extent they need to be communicated and translated to other stakeholders across the industry.

Digital Game Studies

Studies specifically focused on digital games, while much more aware of the nuances of the medium’s specificity than all three of these previous academic strains, have conceptualised audiences largely based on the academic traditions of other fields. This can

be attributed to the relative newness of the field, only coalescing in the past decade as dedicated journals, conferences, and academic departments related to studies of games have emerged. Even so, there is still no agreed upon label for what I here call digital game studies, and debates over terminology, methods, and goals are vigorous. Moreover, there is a vicious schism between the primarily qualitative studies of games based in the humanities, which mostly characterises this new shift, and the quantitative work based in the social sciences described earlier in reference to media effects.

It was not until the first decade of the 2000s that there was a major emergence of a primarily humanities-based approach to studying digital games. In his opening editorial for the launch of the Game Studies journal, Espen Aarseth (2001) boldly proclaims 2001 to be "Year One" for this "emerging, viable, international, academic field," which he sees as having been almost wholly ignored for the past forty years. Rather than simply incorporate studies of games into established academic areas of study, Aarseth suggests that an entirely new academic field is necessary to accommodate the "fundamentally unique aspects" of the medium and combat the historical neglect towards games shown by established fields. Aarseth notes that those studying games "all enter this field from *somewhere else*" due to the lack of any established traditions, and that "the political and ideological baggage we bring from our old field inevitably determines and motivates our approaches." Thus, he portrays this proposed new field as inevitably interdisciplinary in spirit, accommodating to a broad range of research methodologies and academic traditions.

The looseness of the field has been both an advantage and a hindrance, embracing the contributions of scholars from a wide range disciplines and valuing a multiplicity of viewpoints, but also meaning that a decade on, there is still very little consensus on fundamental questions that have lingered for years. This diversity has encouraged new ways of conceptualising gaming audiences, disrupting the dominance of the model established by effects practitioners, but not necessarily usurping it. What Aarseth leaves notably unsaid is that this new game studies tradition, while not beholden to any single approach, does emerge and develop in response to social scientific approaches to the medium, particularly those focused on laboratory research invested in determining media effects. Indeed, while the authors featured in the first issue of *Game Studies* do take a

variety of approaches to games, none of them draw from anything resembling media effects traditions. Aarseth's own opening editorial even briefly suggests that what he envisions for this burgeoning field is based on a "cultural studies strategy."

Much of the early work leading up to this point focused primarily on how to distinguish the field from others, a common phase for any emerging academic field. The aspect of the medium that was initially prioritised was its function as play, fitting digital games into what came to be known as ludology, a "discipline that studies game and play activities" that, at least in 1999, Gonzalo Frasca considered to be "non-existent." While play certainly distinguishes digital games from television, film, or literature, the establishment of a ludology-centric approach contradictorily avoided media specificity arguments, instead attempting to be "independent from the medium that supports the activity" and harking back to previous academic and philosophical work on play that often predate the very invention of digital games (Frasca, 1999). Much what has become canon for ludologists actually long predates the existence and/or popular use of digital games (Huizinga, 1949; Caillois, 1961; Avedon and Sutton-Smith, 1971). The other major strain of game studies at this time, narratology, similarly disavowed audiences by embracing the formalism of literary theory to focus on the workings of games as text, again assuming an ideal audience (see Aarseth, 1997).

These approaches present an ahistorical conceptualisation of audiences as idealised game players with little to no basis in the real world. This conceptualisation firmly places the emphasis of study on the mechanics, rulesets, or narrative elements of games for both political and academic purposes. For an emerging field, this approach held the benefit of avoiding the controversies of content embedded in the established discourses of media effects while gaining academic credibility through its formalist methods. Moreover, it served to elevate the medium beyond its low culture status by disavowing its association with popular and youth audiences. Thus while serving as a valuable transition point for studies of the medium, the conceptualising process on which ludology and narratology were based was ultimately too limiting to become standard. Certainly there is still a need for this type of research and plenty of scholars have continued to study rules, game mechanics, and narratives in meaningful ways (Juul, 2005; Malliet, 2007; Dormans, 2006;

Wardrip-Fruin and Harrigan, 2006). However, these approaches are rarely the sole focus for scholars and have been integrated into the traditions of the emerging digital game studies as but two more influences rather than as dominant forces.

While ludologists conceptualised idealised players in their attempts to avoid media specificity and focus instead on play, those scholars who addressed the specificities of the medium did not entirely avoid this trap either. Espen Aarseth's introduction to the inaugural issue *Game Studies* (2001) suggests that audience members are embedded in the medium because games "must be played," a media specificity argument that unfairly denigrates the engagement of audiences of other media, but which exemplifies digital game studies' common privileging of the player. At the same time, Aarseth also contends that, particularly in multiplayer games, communities of gamers spring up much more naturally than for viewers of film or television, due to the fact that "the aesthetic and the social are integrated parts, and this could be regarded as the greatest innovation in audience structure…[for] thousands of years." While this again seems unfairly dismissive as well as exaggerated to some degree, it suggests a clear interest in studying audience behaviour both within the context of playing games as well as in the broader cultural groups that surround the medium. The industry fares much poorer in Aarseth's description, portrayed as a faceless economic juggernaut that works against the interests of gamers and is presumed to be unreachable by the academic work encouraged here.

These descriptions of players as integral to the medium itself and as especially prone towards developing communities would eventually lead to the specific strain of digital game studies that emerged out of the traditions of sociology and cultural anthropology. The in-game interactions between players, particularly in games with multiplayer components, provide a mediated way to study human relationships and social structures through sociological and anthropological methods such as ethnography and auto-ethnography (Taylor, 2006; Dibbell, 1999; Boellstorff, 2008; Kolo and Baur, 2004; Pearce and Artemesia, 2009). This approach has been further bolstered in recent years by the explosion of popularity of Massively Multiplayer Online games (MMOs) like *World of Warcraft*, *Second Life*, and *Runescape* that have created "virtual worlds" with their own social and cultural systems ripe for study.

Sociological methods have also been used to study gaming communities, cultures, and experiences outside of the games themselves, either in real-world groupings of people or internet communities. These studies have provided a much more varied view of actual gamers, investigating, for example, issues of age (Kanayama, 2003; Pearce, 2008; Quandt, Grueninger, and Wimmer, 2009), gender (Schott and Horrell, 2000), and gaming context (Jansz and Lonneke, 2005). Regardless of the specific purpose of each study, these sociological and anthropological approaches to digital game audiences conceptualise gamers as participating in a cultural form, either reworking or reflecting social structures found elsewhere in society. Similarly, the industry is generally envisioned as a participant in cultural production and circulation, neither universally "good" or "evil," (unlike Aarseth's blanket condemnation) but a powerful force that, like in other cultural industries, plays a significant role in shaping human interactions.

While the launch of *Game Studies* signalled an early attempt to carve out a new field, five years later the launch of the Sage journal *Games and Culture* provided a much more diverse view of how to study games. By this point in 2006, the narratology/ludology "debate" was acknowledged as of the past, with these issues now playing a smaller supporting role in the field rather than attempting to guide it (Steinkuhler, 2006: 97). Similarly, the early "canonical" play texts are mostly absent or under scrutiny, as in Celia Pearce's arguments against the "unproductive" depictions of games in the work of Caillois and Huizinga (Pearce, 2006). Instead, the authors of this opening issue deal with a variety of cultural approaches to games (as suggested by the journal's title), ranging from issues of labour (Yee, 2006a), post-structuralism (Myers, 2006), gender and race (Leonard, 2006), the multiplicity of game cultures (Mäyrä, 2006), law (Lastowka, 2006), and virtual social communities (Williams, 2006). While the field of digital game studies is still clearly in development, the prominence of *Games and Culture* suggests that a humanistic approach would be a driving force within the new field. Furthermore, the publication of this journal through Sage, an established and recognisable force in academic publishing, as opposed to the independent free online model used by *Game Studies* suggests an increasing legitimacy of the field and its status as formally embedded in the structures of the academy.

With regard to audience and industry, the wide range of fields from which digital game studies researchers come leave plenty of room for investigations of both entities. For example, Ian Bogost's entry (2006) offers perhaps the most vigorous opposition to the "essentialist and doctrinaire" attempts at "isolationist techno-textual criticism" of earlier attempts at dedicated studies of games (45). Instead, Bogost turns to his training in comparative literature to develop what he terms "comparative video game criticism" that finds its "grounding in the humanities" and seeks to look at "how [games] inform, change, or otherwise participate in human activity" (45). Bogost sees earlier work in the narratology vein by Espen Aarseth as having begun comparative analyses between games and other traditions, but with a functionalist slant that hindered its ability to comment on cultural significance (43). Thus, these earlier approaches to studies of games are not entirely ignored or written over, but serve as valuable attempts to constitute a field still in development.

Toby Miller's contribution (2006) to the inaugural issue of *Games and Culture* is not off put by the lack of a distinct game studies tradition, instead seeing the opportunity to use the progress made from "progressive media and cultural studies and the world of games enthusiasm" as a way of avoiding both utopian visions or moral panics over the medium in order to "contribute to the public interest" (9). Specifically, Miller proposes a new emphasis on a political economy approach to games media, not only because it has been underrepresented in previous studies of games, but also because of the increasingly evident presence of the game industries with regard to labour, environmental impact, ideological politics, and government institutions. In this view, issues of industry are crucial to the future of game studies and a necessary complement to the cultural work already in progress that focuses more directly on audiences.

Miller's support of political economy emphasises the general lack of study concerning the digital game industry that is only compounded when focusing specifically on how the industry relates with its audiences. While there have been a number of scholars who have investigated the functioning of the digital game industry (Kerr, 2006; Lugo, Sampson, and Lossada, 2002), these studies often give very little attention to audiences, just as studies of audiences tend to downplay the presence of the industry. There are some notable

exceptions (Ermi and Mäyrä, 2005; Kline, Dyer-Witheford, and de Peuter, 2003; Montfort and Bogost, 2009), but this is still clearly an area with much room for expansion.

While the humanities-based study of digital games is still very much in development, the past decade has seen significant progress towards more varied approaches to the medium's audiences. However, scholarship on the industry (and to a greater degree, policy) remains severely lacking in quantity and many of the academic traditions built up elsewhere have not yet been fully applied to this medium. Therefore, specific discussions of how the industry conceptualises audiences and interacts with them are sporadic and uncommon at best, leaving much room for expansion.

Conclusion

These four broad areas of relevant scholarship provide an array of viable approaches for investigating the process of conceptualising audiences as enacted by media industries, policymakers, and audiences themselves. They have each found use in differing contexts, for a variety of purposes, and with a range of effects.

Media effects scholarship broadly conceptualises gaming audiences as susceptible children and thus has commonly found use during times of crisis and uncertainty, but with more force in the US than in the UK. Active audience theories, in contrast, increasingly view audiences as playing an integral part in the production process and bring industry and audiences closer together. Political economy and media industry approaches have both seen variants of these conceptualisations, offering a balance between the overwhelming complexities of industrial functioning and the comparably minuscule but significant actions of individual audience members. Like effects scholarship, these approaches have been especially relevant to policy studies, here with regard to economic policies to safeguard national industrial performance and its associated impacts on workers and indigenous product circulation. Finally, humanities-based digital game studies has begun to incorporate these other viewpoints, but due to its infancy, still has much ground to cover in providing a rich diversity of possible ways to conceptualise audiences.

Despite the vast differences between these traditions, there are a number of significant points of overlap across all four. While digital games have frequently been described as one part of the ambiguously defined "new media," it is important to interrogate the ways in which the four approaches here both incorporate long established methods of conceptualising audiences while simultaneously signalling a unique and significant departure from these entrenched models. The media effects tradition, as noted earlier, long precedes the existence of digital games and as such comes to the medium with predetermined methods, goals, and precedents based in other media. Even within effects studies though, the issue of medium specificity raises new questions and complicates old answers, as researchers look to aspects of digital games like the ways player interaction impacts on identification as potentially altering established conclusions concerning media effects based in media without this type of interactivity.

Similarly, while active audience theories arrival to the study of games with preset methods and frameworks, these established models absolutely require reevaluation when applied to a medium that has embedded user engagement in its very core. Studies of the media industries are likewise founded on research focused on the functioning of companies based in "traditional" media such as film, television, and radio. While much of this work is adaptable to the digital game industry, the specific industrial practices and structures associated with the medium both require new models and, particularly as traditional media conglomerates begin to establish game publishing or development arms, suggest changes to studies of the broader media landscape.

Work in humanities based digital game studies has encountered this collision between the established and the new, reacting with direct applications of existing models, attempts to carve out completely new approaches emerging from medium specificity, and most productively work that engages both. It is crucial, however, not to blindly appropriate established traditions without a critical lens, just as it is equally foolhardy to strike out new territory when valuable existing research has already covered the same ground. This chapter has demonstrated not only which established academic traditions are relevant to this research, but how and why the knowledge accumulated within these traditions can be applied to a study of digital games whiles still presenting new challenges and

opportunities. Ultimately, this study should enhance established academic traditions by updating and adjusting them with the specificities of an emerging medium while also bringing the study of digital games up to speed with the long histories of other related fields.

As established and emerging academic traditions merge, this overview of four academic traditions also displays a clear trend towards convergence between the consumer and producer. This is perhaps most evident in active audience studies, where audience uses of media have always been the central concern, but Jenkins' *Convergence Culture* (2006a) has begun to suggest an unprecedented level of interaction between consumers and producers on a broad scale. Likewise, studies focused primarily on the industry have noted this shift from the opposite viewpoint, as the production process incorporates the actions of audiences in a variety of forms. Studies of media policy have similarly confronted this convergence when faced with such issues as the changing roles of copyright and consumer protection when the lines between producer and consumer have become increasingly blurred.

This process has drastic ramifications for any attempts to conceptualise audiences, as it becomes more and more evident that any attempt to study media consumers must also study media producers, and vice versa. The convergence of consumers and producers, as well as that of established paradigms and new emerging models, requires a parallel convergence in research as suggested by Holt and Perren (2009: 11). This strategy endeavours to merge a variety of approaches to audiences and industries from seemingly disparate sources and with differing methodologies. Specifically here, it necessitates a convergence of production and consumption scholarship, bringing together political economy and media industry studies focused on top-down functioning with the bottom-up approach found in active audience theories. Only by viewing production and consumption as two aspects of the same interwoven process can it become possible to gain a critical view of the functioning of the system as a whole.

My research thus attempts to both build upon and complicate the four outlined approaches to conceptualising digital game audiences through this process of academic convergence.

At a basic level, this chapter indicates the need to simultaneously bring the lessons of existing pan-media approaches to a medium-specific field still in development while similarly injecting an informed perspective on digital games into pan-media approaches that clearly need to begin including the medium in their models. In both cases, my research should benefit the field simply through its existence, but aspires to accomplish much more. Turning specifically to digital game studies, this review emphasises that there is clearly a need for research on the games industry and on policy, as well as combining these production-centric areas with approaches based on a concern with audiences. Moreover, my attempt to compare these issues with regard to the US and the UK should add one more layer of nuance and perspective to the process of audience conceptualisation.

The reach of this study should thus encompass far more than simply research on digital games, particularly enhancing models focused on other media industries, all variations of active audience production, and general work investigating the links between producers and consumers. Beyond academia, this study offers valuable analysis of the blurring between producers and consumers that would be useful to an industry looking to thoroughly engage with their audiences, individual audience members trying to navigate the complicated world of media production, and policymakers concerned with how to balance the economics and personal freedoms at stake in this relationship.

Chapter 3

Playermaking:

The Institutional Production of Digital Game Players

Introduction

This chapter concludes the development of a theoretical framework for the digital games industry's conceptualisation of its audiences. While the previous chapter outlined the broad academic contexts of this project, this chapter establishes a more specific theoretical framework of "playermaking" that guides the fieldwork that comprises the remainder of this thesis.

At the core of this theory is the argument that media audiences across formats are not naturally occurring, but rather are constructed entities brought into existence by a variety of interested parties, formed by processes, and discursively situated for specific purposes. The resultant constructs emerge out of institutional constraints and reflect the sociocultural, technological, and historical contexts of their creation.

In this chapter, I begin by first surveying the literature on the construction of media audiences, with a particular focus on work emerging out of the fields of mass communication and media sociology concerning "audiencemaking." This involves an examination of the role of media workers in the construction of audiences, the changing face of media work in a convergent and highly technologised media landscape, and the digital games industry's role as an institution.

I then adapt this terminology to develop a theory of "playermaking" that addresses how the digital games industry constructs its audiences in ways both similar to and different from other media industries. Here I argue that the digital games medium diverges from most other media in its usage of the term "audience" with regard to the industrial and economic specificities of advertising based approaches to content monetisation, as well as the

institutional and academic tendency to focus on individual players rather than on collective groups connected to lived performative experiences. Where playermaking does align with the construction of audiences for other media, it typically occurs in an advanced or exaggerated state that indicates a need to revise existing pan media models of audiencemaking.

In a general sense, playermaking today is increasingly technologised, deterritorialised and personalised. The process embodies the broader shifts in perceptions of media audiences, the role of technology in the creative workplace, the impact of social media and networked culture, and the major upheavals in digital game production, distribution, and monetisation. Media makers, including game developers now routinely have unprecedented opportunities to gather information about their audiences and now face new problems with “big data” (see Manovich, 2011), as well as a growing number of opportunities and venues in which they can interact with people that use their products. Despite these changes, however, the relationship between game producers and consumers still follows many of the paths established before the current rise of convergence culture and correspond to that found in other traditional media formats.

Game development still primarily occurs within organisational structures that segment or constrain worker contact with audience members, while following routinised production strategies that prioritise risk mitigation and reliance on established product images over nuanced audience analysis. Moreover, traditional game developers often hold hostile opinions of audience research, viewing it a constraint on creativity or a trumping of marketing over art. Finally, the personal identities of game creators as simultaneously game players themselves only exacerbates media makers' tendencies to produce primarily for themselves. As trends like social gaming, evolutionary design models, and the spread of audience metrics become more firmly entrenched in the digital games industry, these established tropes have both taken deeper hold and given way to new approaches to conceptualising gaming audiences.

Audiencemaking

The media audience is not a fixed set of actual consumers of content, but an entity made by media institutions for their own purposes. The construction of audiences by media institutions for effective social or economic uses (both internally and externally in a variety of forms) largely corresponds to what Ettema and Whitney call "audiencemaking," a term developed as a response to changing models of communication (1994).

The authors cite early mass communication models that fit firmly within the sender → message → receiver mould as becoming clearly inadequate over the course of the twentieth century. The coalescence of active audience and agenda setting theories by the 1970s marked a distinctive break from traditional models, particularly with regard to the role of the audience. At the same time, studies of the media industries saw "a shift in focus from individual 'gatekeepers' to organizational routines and institutional arrangements" (1994: 2). Despite these "paradigm shifts," Ettema and Whitney contend that the concept of the audience is still widely conceptualised within mass communication studies as fundamentally receivers of information made by producers, an assumption that continues to hold weight in common perceptions of audiences and contributes to depictions of audiences as largely passive.

However, almost every model of communication now incorporates some sort of "feedback" indicator to represent a flow from audiences back to content creators. Of all the connections between consumers and producers that fit within the broad categorisation of "feedback," Ettema and Whitney single out economic feedback (the "money arrow" on graphical representations of communication models pointing back to producers from consumers) as one of the most significant and most commonly overlooked in academic literature. This is particularly relevant when broadening focus beyond specific acts of media creation to the organisational level, where corporate and small business budgets both rely on consumer dollars for sustainability. Regardless of individual company size, the goal for the media industries is to construct "institutionally effective audiences" that are defined by their value and meaning within this specific industrial system. While there

is some assumed connection to actual people out in the world, when constituted by the system "they exist *as* relationships *within* the media institution" (1994: 6).

Rather than disregard notions of communication, however, this instead reconfigures to more closely entwine media institutions and audiences. John Hartley (1987: 127) suggests that, based on the economic centrality of audiences, the television industry is "obliged not only to speak *about* an audience but – crucial, for them – to talk *to* one as well: they need not only to represent audiences but to enter into *relations* with them" (emphasis in original).

The creation and structuring of these relationships lie at the heart of the concept of audiencemaking. As a theory ultimately concerned with relationship management, I argue that there are two core shifts with both historical and theoretical dimensions that have guided and complicated the usage of ideas of audiencemaking. The first is an expansion in focus from the activities of specific media workers to the functioning of entire institutions that have led to problematic market-driven appropriations of audiencemaking. This ultimately requires an examination of the digital games industry as an institution. Second is the broader cultural and technologically-enabled convergence between producers and consumers that has drastically impacted on the ways in institutions engage with and understand their consumers.

The remainder of this section looks individually at these developments to provide an updated version of audiencemaking that reflects the current media landscape while determining what foundations of audiencemaking have continued to remain relevant.

Media Workers and Convergent Audiencemaking

While audiencemaking is an institutionally focused theory, the role of media workers in the construction of audiences has been a primary concern for studies of the subject. The general trajectory of this literature has trended outward, moving from individual workers' understandings of their audiences to the translation of these understandings into routinised

workflows (though still as enacted by individual workers) and then to their embedding into standardised processes at the institutional level.

However, once the emphasis has shifted squarely to the organisational/institutional level, audiencemaking has become co-opted by market-driven models that have lost track of how the myriad ways in which audiences can be "institutionally effective." Moreover, there has been a theoretical distancing of media worker and media consumer that does not reflect the current shift towards convergence, but also that provides a very constrained view of the concept of the institution. Consequently, I begin with an argument in favour of a reassertion of the role of media workers into models of audiencemaking to reflect the recent changes to how media workers interact with consumers and how media work is constructed within institutions today.

Early studies of the ways in which institutions create audiences tended to focus on the roles played by individuals, specifically media workers. This largely falls under what Ettema and Whitney label "communicator studies," the goal of which is "to explain how mass communicators, understood to be workers in complex organizations, manage the processes of message making" (1994: 5). Wilson Lowrey's overview of this literature with regard to journalism (2009: 46-48) isolates three major arguments with regard to the role of individual worker in audience conceptualisation. According to Lowrey, media workers often rely on reference groups to stand in for their entire imagined audience, value feedback from professional peers or other people in their social environment over feedback coming from their actual audience, and finally may hold hostile opinions of their audiences, either as part of professional elitism or from fear that bowing to audience demands would restrict their professional autonomy. Together, these factors contribute to a reluctant or even hostile relationship with audience research, with clear audience conceptions appearing unnecessary for daily work and focus groups or metrics viewed in opposition to creativity or the value of instincts.

This suggestion that individual workers' conceptions may not actually be particularly problematic for ordinary production of media shifts the emphasis onto the resultant production routines. Lowrey turns to New Institutional Theory to suggest that "[t]hese

strategic perceptions of audiences become taken-for-granted typifications within media organizations and media professions, and they constrain decision-making invisibly... The notion that journalists typify audiences and that news organizations buffer internal decision-making from the impact of daily audience feedback fits well with the institutional approach" (2009: 48).

Research in this vein argues that conceptions thus become routinised into what amount to standard operating procedures, guiding individual worker production to a greater extent than any single person's perceptions. These can then coalesce into standardised images across companies, sectors, or industries, with conceptions of audiences circulated and sustained on the institutional level. This shift of focus thus integrates individual conceptions and actions into broader guiding strategies to acknowledge the complex functioning of media institutions.

As Ettema and Whitney describe, "In the theoretical relocation of 'communicator studies' from the individual/organizational to the organizational/institutional level of analysis, the arrangements in which communications relationships are produced become the primary focus of study. This institutional conception seeks to incorporate, and then move beyond, the focus on the perceptions of gatekeepers and the routines of organizations. In such a conception, audiences are seen to be the product of something like a manufacturing process, but they also are seen to be the site of contestation among media firms, measurements services, advertisers, interest groups, government, and other agents of institutional power" (1994: 16).

However, along with the shift towards institutional readings of the media industries, the other major relevant theoretical development since the release of Ettema and Whitney's book is the paradigm shift towards convergence, previously described in chapter two as a broader development in active audience frameworks. As the lines between producers and consumers become increasingly blurred, the relationships between them and their functions *as* relationships within the media industries also become more fluid.

In many ways, this undermines the assumptions of institutionally-focused models of audiencemaking based on a presumed buffer between media workers and media audiences (like that of Lowrey's depiction of New Institutional Theory), a buffer that is now either eroding or even entirely illusory. Henry Jenkins suggests that in today's convergent, participatory culture, "[r]ather than talking about media producers and consumers as occupying separate roles, we might now see them as participants who interact with each other according to a new set of rules that none of us fully understands" (2006a: 3). Thus, if media workers are coming into closer, more regular contact with media consumers, or even conceptually merging with them entirely, this suggests the need to reevaluate the role of overarching institutional guidance in the audiencemaking process.

However, this depiction of convergence runs the risk of marginalising the role of media workers entirely as their actions merge with those of audiences. While much research focuses on the revolutionary and disruptive potential of convergence's reorganisation of today's media work, there is also a backlash and an entrenchment of traditional views and practices of work. Within journalism, for example, Monaghan and Tunney temper enthusiasm for the democratising potential of blogging by noting that "in general, however, blogs respond to stories originating in the mainstream" which "can be considered as a form of agenda-setting," reorientating control within traditional news institutions in a fashion long-familiar to academic journalism research (2010: 7). Similarly, Hudson and Temple (2010) argue against the celebratory rhetoric proclaiming everyone with a computer to be journalist, instead returning to institutionally valorised values and practices of the profession, most notably a commitment to "truth" above all else, diligent newsgathering, and a consumer emphasis on "trustworthiness."

The impact of convergence on media work, then, is a complex reconfiguration that decreases both the theoretical and practical distance between producer and consumer in a way simultaneously disrupts and reinforces existing institutional structures. While the line between the roles of consumer and producer become ever more difficult to discern, the reflexivity of media work today contradictorily advocates a constant recognition of these roles and an emphasis on individual performativity.

A convergent model of audiencemaking refocuses attention on the points of interaction between institutions, media workers and consumers to argue that the process of audiencemaking is not simply a top-down function, but a negotiated process involving a variety of stakeholders all engaged with issues of identity. Though Ettema and Whitney downplay the influence of individual media workers, the impact of convergence on work within media institutions has made workers a crucial site of linkage and conflict with consumers as they are incorporated into institutional structures.

Technologised Audiencemaking

The impact of convergence on the academic study of audiencemaking has ramifications beyond the role of media work, altering and reflecting the theory's industrial, sociocultural, technological, and academic contexts. With regard to media generally and digital games specifically, the increased technologisation of the audiencemaking process can be viewed as an outcome of this reconfiguration that revolutionises images of the audience through the gathering of unprecedented amounts of consumer information and greater opportunities for consumer participation, while also constraining these images with institutional systems of control.

Philip Napoli (2011) argues that the concept of the audience and the processes of audiencemaking are currently evolving due to two main shifts towards fragmentation and autonomy. As media audiences have fragmented into niches and consumption patterns become more mobile and less predictable, media institutions require new forms of audience information and increasingly sophisticated systems of gathering that information. At the same time, consumers demand more direct participation in the production of media products, complicating the roles and identities of media workers while repositioning their interactions with media consumers. Napoli positions technology at the heart of these shifts, emphasising its role in destabilising existing institutional frameworks and established methods of audiencemaking, while also noting the increased technologisation of modes of institutional control.

Of primary significance is the concept of audience information systems, which expand the scope beyond traditional exposure-based measurement systems to incorporate “the broad array of data gathering and feedback mechanisms used by media industries and advertisers not only to measure audience exposure to media content, but also to predict content preferences and consumption patterns, target content to specialized audience segments, and gather information on audiences' reactions and behavioral responses to content” (2011: 10). This term is particularly useful in that it emphasises that audience measurement is itself a system within larger media systems, composed of a variety of discrete processes that come together across media spaces (in fragmented and uneven ways) to help create audience images.

Therefore, it encompasses the whole range of quantitative audience measurement techniques, including traditional retail data from market research companies like The NPD Group or The GfK Group alongside newer bespoke metric-based solutions and the harder-to-capture information found in message boards, Facebook “Likes”, or qualitative research formats like focus groups. This raises a number of connected questions about audience research, namely what are media institutions hoping to learn from these systems, why are they interested in this information, how is it made effective, and are these specific processes adequately meeting these goals?

Napoli also emphasises the media industries' current state of extreme flux with regard to both media/audience fragmentation and audience autonomy. The author attributes the first of these largely to technological changes, noting greater diversity in media device mobility, expanded distribution platforms, vastly increased content options, and staggered viewing times as undermining the traditional “mass” audience. The splintering of this audience has thus problematised traditional measurement methods built on the idea of sampling a representative group to stand in for the fairly uniform whole, a whole that does not necessarily exist anymore. As such, media sectors (like advertising) that had previously relied upon the validity of this data have now had to reconsider their research methodologies to reflect this vision of a newly changed and highly fragmented audience (2011: 5-7).

At the same time, these splintered audiences demand greater control over their media, from time and place of consumption all the way to their role in the actual creation of the content itself (2011: 8). This autonomy undermines many of the basic assumptions of traditional audience research, leading to a "post-exposure audience marketplace" in which other audience traits, such as the difficult-to-quantify "engagement," have become as valuable or more valuable than simple viewing or exposure numbers (2011: 15).

The industrial response to these threats to traditional models has been twofold. First, and perhaps most obviously, has been an entrenchment of the status quo through the use of regulatory, technological, and ideological controls to maintain established audience models and behaviours (Napoli, 2011: 123; see also Lessig, 1999; Lessig, 2004). On the other hand, the same technologies that have proven disruptive to traditional media have themselves either been created or harnessed by the media industries to provide new and unprecedented opportunities for the construction of even more effective audience images. This has been seen time and again in the initial resistance to, and yet eventual adoption of, new technological measurement systems for virtually every communications medium, such as the Nielsen People Meter for television and Arbitron's Portable People Meter for radio (Napoli, 2011: 131-132). Certainly this involves overcoming issues of cost, implementation, analysis, and convincing (or circumventing) those stakeholders benefiting from the existing system, but the potential for future profits and the current crisis of the splintering mass audience has led many industrial groups to begin serious consideration of the viability of these new solutions.

Both of these possibilities ultimately help concentrate control within institutions through the accumulation of information. Ien Ang draws on the work of Michel Foucault to argue that the institutional use of audience measurement systems ushers in a "regime of truth" by which media institutions attempt to constrain audiences within seemingly verifiable and objectively "true" audience constructs as defined by the institution itself. She states that "empirical information about the audience such as delivered by audience measurement could become so important only because it produces a kind of truth that is more suitable to meet a basic need of the institutions: the need to control" (1991: 10).

This serves as the ideological extension of Ettema and Whitney's "institutionally effective audience," in that audiences are the most effective for institutions when they can be most fully controlled. Ang crucially links this desire for control to the accumulation of information that has only expanded alongside the rise of Napoli's "audience information systems." Today's media landscape, then, offers unprecedented opportunities for information gathering that only deepen this institutional drive towards attempted control. However, as Ang ultimately concludes, this search for control is a desperate one due to its impossibility, as the sociocultural complexities of audience behaviour can never be fully understood or completely controlled by institutional systems.

Regardless of these new developments, Napoli's revision suggests that the concept of audiencemaking still provides a useful framework within which to investigate the construction of media audiences and their instantiation as institutionally effective entities. While still built on the foundations established by Ettema and Whitney, I argue that models of audiencemaking today must be informed by the impact of these highly technologised systems as emblematic of the power struggles inevitable in institutional relationships with media audiences.

The Digital Games Industry as Institution

The shift in focus from individual workers to institutional/organisational structures requires an examination of the role of media institutions generally and of the functioning of the digital games industry as an institution specifically. Moreover, the changing roles of media workers within convergent and increasingly technologised systems suggest changes to the media industries' role as institution as well.

Philip Napoli offers two related definitions of media institutions. The first he describes as "concrete organizations," while the second is a conceptual definition based on "established norms, formal procedures, and practices" (2011: 2). While the former would include market research companies like Nielsen, game developers like Double Fine, or publishers

like Electronic Arts[1], the latter is more comparable to the discursively situated "Hollywood." Napoli argues that these two definitions are closely intertwined, "as the examination of specific organizations is often a key method of understanding the broader spheres in which they operate, and vice versa" (2011: 2).

For Napoli then, the "institutionally effective audience" is predicated on an institutionally defined industry that constructs audiences based out of the structures of both individual concrete organisations and the broader conceptual frameworks governing the industry as a whole. Ien Ang places the construction of audiences squarely within this dual concrete and conceptual institutional framework. She argues that the term audience "refers first of all to a structural position in a network of institutionalized communicative relationships: a position located at the receiving end of a chain of practices of production and transmission...It is within the constraints of this structural position that concrete people become actual audiences" (1991: 3-4).

While neither of these aspects of media institutions are able to stand on their own, there is a significant risk of over-reliance on one or the other. Too much emphasis on the conceptual could result in a homogenised view of an industry composed of a diverse and complex system of discrete companies. However, audiencemaking literature has been much more significantly impacted by a prioritising of the organisational over the conceptual.

Given their focus on institutionalised audiencemaking, Ettema and Whitney cite the economic aspect of this contested manufacturing process as the most overlooked in existing mass communication literature. However, in the time since their introduction of

[1]Electronic Arts is one of the largest American third party publishers, headquartered in Redwood City, California and founded in the early 1980s. EA owns development studios around the world, with a high concentration in Canada. They control many professional sports licenses, making annual games in highly successful franchises including *FIFA Football* (1993) and *Madden NFL* (1988). Notable development subsidiaries include Digital Illusions Creative Entertainment or DICE, makers of the *Battlefield* (2002) series, Maxis who are discussed later in this thesis, BioWare, creators of blockbuster series such as *Mass Effect* (2007) and *Dragon Age* (2009), and PopCap Games, a social game company known for hit titles such as *Peggle* (2007) and *Bejeweled* (2001). EA is highly successful, but have a controversial reputation for policies viewed as anti-consumer, aggressive studio acquisitions and shutdowns, and exploitative working environments.

the term, it has since found use in a very narrowly economic definition as simply any process used to build up an audience for a media product. However, these uses of the term tend to miss the organisational and conceptual relevance, instead conflating audiences with real viewers.

Abelman and Atkin, for example, offer basic television programming and promotional strategies, like branding, use of signature shows, blocking, and counter-programming, as "audience-making strategies" by which they simply mean a way for networks to "attract and bolster their respective shares" of the total potential audience (2011: 105). Similarly, Winfried Schultz uses the term audiencemaking to describe "the objective of a commercial channel" (as opposed to public service channels). He defines audiencemaking as a way "to attract a mass audience and thus create a market which can be offered to advertisers," citing Ettema and Whitney for this definition (2000: 113-115). In perhaps the most narrowly focused approach, David VanHoose aseptically describes an "audience-making market" as one in which "a firm operates a platform that brings together advertisers and an audience," with the platforms typically providing some sort of entertainment or informational content to attract audiences that can, for a fee, be monetised by the third party advertisers (2011: 160-161).

These uses of the term audiencemaking do address the economic relevance of audience construction, but at the cost of conflating audiences with real viewers. The process here is simply one in which networks attract more eyeballs, ignoring the conceptual function that Ettema and Whitney stress. In these examples, the focus is on specific methods of *audience-growing*, defining audiences as naturally occurring entities existing separately from the media industries in a purely quantitative fashion that can be mathematically increased once engaged by advertisers.

Conversely, Ettema and Whitney's version of audiencemaking stresses that media audiences, including those for digital games, arise out of the production practices of individual companies and the structures of the conceptual institution that as a whole is the "digital games industry." However, until recently, academic work on the digital games industry as an institution, has mostly focused only on specific practices (Brooker, 2001),

and rarely depicted it explicitly as an institution in the conceptual sense. Most uses of the term “institution” that do focus on the conceptual specifically refer to traditionally-defined institutions, such as the legal/governmental (Humphreys, 2009; Raphael et. Al, 2010), financial (Malaby, 2006), or military (Allen, 2011). Significant exceptions have begun to emerge from perspectives including political economy and studies of the media industries (Dyer-Witheford and de Peuter, 2009; Lugo, Sampson, and Lossada, 2002; Kerr, 2006; Carlson and Corliss, 2011), cultural history (Parikka and Suominen, 2006), and design and philosophy (Wark, 2007; Juul, 2009) that bring together specific organisational processes and the broader institutional contexts of these moments of production, but without specifically discussing the industry as an institution.

This thesis bridges these two aspects of the digital games industry as institution in order to fully examine the ways in which both institutional frameworks and specific organisational practices structure and constrain the construction of digital game players. I argue for a continuation of the expansion led by Ettema and Whitney to address the structuring influence of the digital games industry as a conceptual institution serving as a battleground for various industrial stakeholders, but at the same time stepping back to acknowledge the increased personalisation of media work today and the centrality of individual worker action and identity in the process of audiencemaking.

Playermaking

While audiencemaking offers a framework for understanding the industrial construction of media audiences, it requires a number of revisions when applied to digital games. Napoli's work goes a long way in updating audiencemaking to address changes in media, industry, and culture, but it still emerges out of the same mass communication background as much of the literature mentioned previously and thus is primarily focused on the specificities of broadcasting. Thus while many of his underlying arguments are clearly relevant to the digital games industry, there is also a need to reevaluate these concepts and arguments when applied to this specific medium.

Adapting Ettema and Whitney's terminology then, I argue that the digital games industry engages in “playermaking” throughout the development process as a means of conceptualising its audiences. The distinction from audiencemaking here is in part one of medium specificity, taking into consideration both the ways digital games differ from other communication and entertainment media as well as the specific complexities of digital games industry practices. At the same time, this approach recognises the commonalities across media formats and systems of media production to determine what an understanding of audiencemaking can bring to the study of digital games, as well as how the inclusion of digital games may improve existing models for understanding the audiences of all forms of media.

However, digital games and the academic frameworks for studying them introduce new complications for the application of models of audiencemaking, particularly with regard to the problematic conceptualisation of the “audience” for games and its usage in game studies. Where the medium does correspond to the audiencemaking frameworks developed with regard to other more traditional media, digital games tend to exhibit these characteristics in an exaggerated or advanced state.

Thus, if all types of audiencemaking are increasingly technologised, convergent, and reliant on issues of labour and identity, digital games may indeed be audiencemaking par excellence. At the same time, this destabilises the concept of the audience, calling into question the term's usefulness in describing the entities produced by today's media industries.

This section describes the key issues at stake in the application of audiencemaking to the medium of digital games and their impact on the processes of playermaking. This begins with the problem of using the term “audience” for a digital game medium that does not rely on advertising-based models of content monetisation. This terminological problematic extends to the academic world, where the term is fiercely contested within the field of game studies that largely prefers to focus on individual players. Together, these two challenges to the term “audience” result in a model of playermaking that is not predicated

on the delivering of audiences to third parties, and is therefore much more personalised and behaviour-based in execution.

The "Audience" for Digital Games

Ettema and Whitney's discussion of audiences, along with most of the other studies mentioned earlier, focus primarily on television and print media (and to a lesser extent radio), because their approach emerges out of a critique of mass communication models. Similarly, despite Napoli's turn towards "new technologies" in relation to media audiences, his approach is still couched in the mass communication roots of his main source, primarily addressing television and online publishing while neglecting to include digital games in the discussion. However, the shift from audience to player continues to be significant with regard to the "money arrow," or the economic dimensions of the media.

The construction of audiences in all of these more traditional media formats is reliant on a use of the term "audience" as defined in relation to a particular economic model. Specifically, it revolves explicitly around advertising, the dominant funding model that thus heavily influences the shape of the "money arrow." While there is some consideration of the public service role and funding of broadcast media (see Schultz, 2000; Balnaves and O'Regan, 2002; Ang, 1991; Napoli, 2011), this is generally defined in relation to the much more dominant advertising-based programming, either as an alternative or as competition.

Digital games, conversely, have historically relied on a boxed retail product model, with very few successful advertising-based models. Even today as monetisation models are in extreme flux, advertising support remains uncommon in the medium with major ad firms downsizing and/or moving in-house (Parkin, 2010; Caoili, 2010; Caoili, 2011). Content and generic issues may also play a role in the failure of advertising to take hold in the world of digital games (Yang, 2006). In the world of mobile gaming, where models are most fluid, growth is greatest, and advertising-supported gaming most common, it is not insignificant that the dominant iOS marketplace still relies on either purchased apps or in-app purchases while the more advertising-friendly Android marketplace lags behind. Similarly, social games have largely opted for monetisation via virtual goods rather than

advertisements, with market leader Zynga[2] by some accounts making around 95% of their revenue from virtual goods (Takahashi, 2011b).

Analysts today predict that advertising sales are poised to take off, yet lags behind other media and with growth centred *around* games rather than in them (Cifaldi, 2011a). Despite this major departure away from advertising, the "money arrow" remains a crucial aspect of playermaking and increasingly so as uncertainty over shifting audiences and changing monetisation models make audience information even more desirable, with budgetary restrictions (or allowances) ultimately playing a central role in the use of measurement technologies.

However, this shift away from the advertising audience raises critical questions about the functioning and purpose of audiencemaking. If, for traditional mass media, audiences are being made for advertisers, then for whom are they created in a medium without advertisers? Certainly if they are being constructed more for uses such as presentation to shareholders, use within production, as a direct appeal to consumers, or to develop a public image, then this has significant ramifications for the entire playermaking process. Not only is the end goal a different type of deliverable, but the definition of an audience's "value" changes dramatically as well.

The digital games industry is much less interested in constructing audiences, built to offer value to third-party advertisers, than in constructing players who are directly institutionally-effective for the industry itself. This insularity of playermaking results in a conception of players resting on two types of interrelated consumer behaviours – play and

[2]Founded only in 2007 in San Francisco, California, Zynga is a developer and publisher already emblematic of the rise and fall of the social game "bubble." For definition, social games are games played on social networking platforms such as Facebook, with Zynga as the most highly visible social game developer. The company was initially a major portion of Facebook's revenues (a relationship that has eroded over the years) with huge successes like *FarmVille* (2009). The company began a series of rampant studio acquisitions while expanding into mobile markets with games like *Words With Friends* (2009) and *Draw Something* (2012), with nearly all of the company's titles using the free-to-play model. The company has been highly controversial, criticised for aggressive acquisitions, exploitative game design, and "cloning" titles developed by other companies. Initially funded by venture capital, the company went public in 2011 to an extremely high valuation, but in the time since the company's stock has tumbled, they have shuttered many of the studios they recently acquired, slashed their workforce, distanced themselves from Facebook, and cancelled or shut down many of their games.

purchase – which are the primary goals of the constructed digital game players. Ultimately, this means that playermaking itself is especially focused on behaviours, a feature further emphasised by the medium's "interactive" specificity, but as specifically defined by the digital games industry.

The application of audiencemaking frameworks to digital games thus involves a crucial terminological evaluation to parse out what the "audience" for games even means. For this industry, this has largely meant a conflation of audience with player, with significant implications for the resultant constructions of "players."

The Problem of the "Audience" in Game Studies

Just as the digital games industry has struggled with the problem of determining what the "audience" for games may mean, academic research into games has similarly grappled with this issue. At the core are three interrelated issues: a tendency towards focusing on individual players rather than collective "audiences," ambiguous distinctions between the playing, performing, and observing of games, and competing definitions and methodologies of "user research."

For media more generally, Pertti Alasuutari (1999) argues that audience research can be divided into three generations, together indicating the trends that have guided investigations into the roles of the media audience. Alasuutari views the first main phase of media reception studies as emerging in the early 1970s, most readily summed up by Stuart Hall's semiotics inflected encoding/decoding model. This phase follows out of earlier mass communication theories of the audience, but while both acknowledging systems of production and leaving room for audience interpretation of content. This phase gave way to an ethnographic generation of audience research, emphasising issues of identity along with the contexts and conditions of reception. The current generation is dominated by a depiction of the audience as discursive construct, with an increased attention to academic reflexivity and a marginalising of psychological models in favour of sociological ones.

Given the relative youth of game studies, it is unsurprising that studies of digital game players do not clearly follow this trajectory, but elements of each generation are still represented within the literature. I would argue that on the whole, studies of digital game players have placed a much greater emphasis on both ethnographic methods (see Taylor, 2006; Boellstorff, 2006) and self-reflexivity, but with certain strands continuing a heavy reliance on psychological approaches.

However, the conception of game players as audiences, extremely common for most mass media, has proven exceptionally controversial for digital games. For example, Eskelinen and Tronstad advocate an approach to games as "audiencelessness," (2003: 196) focusing instead on the "configurative performance" of individual players. Others, like Lee, Park, and Jin suggest that the medium's "interactivity" undermines the "linear relationship between creator and audience" that exists for other media (304). This type of claim, however, relies on a problematic usage of the term "interactivity" while also rejecting active audience approaches to other media.

At the same time, the most common field advocating the emphasis on psychological and behavioural approaches to individual players is that of the very vaguely defined "user research." Existing at the junction point between the games industry and academic study, user research includes a variety of discrete methodologies, approaches, and goals typically employed for the benefit of game development. Lists of the various components of user research frequently include usability, UX (user experience), and UI (user interface), all of which involves very different investigative processes. These systems will be more fully explained in the chapter on systems of player measurement.

However, the unification of these disparate pieces under one umbrella term has resulted in general confusion over what "user research" actually involves and potential conflict between the various aspects of the field. Despite these stumbling blocks, however, there is an almost unanimous agreement over who the "user" is in these terms: "an actual representative from the potential target audience" (Tan, 2012). Thus, while user research may offer a significant opportunity to view the industry's assumed audiences and observe

how they engage with products in development, in terms of audiencemaking this is a post hoc solution in that the audience has already been constructed.

Gosling and Crawford argue that the struggle over defining the audience for games is symptomatic of a widespread neglect of scholarship on the sociocultural context of how players ordinarily engage with digital games. They propose the usage of the term "scene" to emphasise how the act of playing digital games is "cultural, it is social, and it is embedded in everyday social practices and lives. Moreover, it is evident that the culture of gaming is for many a relatively ordinary, even at times, mundane activity" (2011: 145). Elsewhere, this focus on the ordinary use of games has mostly been restricted to studies focused on specific marginalised player populations, such as the elderly (Pearce, 2008; De Schutter, 2011; Quandt, Grueninger, and Wimmer, 2009).

The other promising emerging approach is a focus on the construction of gaming culture rather than audiences specifically. Adrienne Shaw places a significant amount of emphasis on the construction of audiences in specific contexts, such as through the mainstream press (2010). In a focus on the construction of GLBT gaming audiences, the lack of a GLBT gamer construct is attributed to the "heterosexual masculinity" that dominates the "presumed normative identity in both the audience and industry" for games. Here, Shaw clearly argues that the construction of digital game audiences links industrial imperatives, sociocultural context, and resultant content based largely on expectations and assumptions (2009). Similarly, Dovey and Kennedy (2006) focus on the construction of digital game culture within industrial discourse, but again largely sidestep the issue of players as any sort of gaming audience. Taylor (2007) also uses gaming culture as a means to investigate the construction of platform-specific gaming communities, tying industrial constructions to the technological and economic dimensions of the audience, but without addressing the audience as such.

Thus, while game studies has developed a range of ways to discuss game players and game cultures, there is still no clear definition for what an "audience" for games actually means. This void has meant that the term has been largely used as a commonplace reference to the audiences for other media, but without a recognition of the specificities of the digital

games medium. As such, I argue that audiencemaking must be reformulated into "playermaking" to address this distinction from existing models of audiences.

Audiencemaking Par Excellence

Beyond these main deviations, playermaking largely falls in line with the characteristics of audiencemaking, particularly as updated by Napoli. However, they occur in an advanced, exaggerated state that both continues to underscore the specificity of the digital games medium and offers a potential view of the future of audiencemaking in other media. As such, playermaking is heavily fragmented, reliant on convergent and identity-laden consumer-producer systems, and of course, highly technologised.

Digital games have always existed in a state of audience fragmentation, emerging in the post-mass media era with a distinctly subcultural reputation. The fragmentation of film and television markets has long been a fundamental concern for the digital games medium. Similarly, digital games have dealt with the rise of audience mobility (with the widespread adoption of handheld gaming consoles) for decades, though despite this extended period of preparation, has still be revolutionised by the arrival of the smartphone and tablet along with other media forms.

In terms of convergence, the relationship between producer and consumer has undoubtedly changed in recent years, but player production in forms such as mods (short for "modifications," which can refer to a wide variety of changes to a game to alter the way a game plays or looks, or to add additional content) and machinima (the use of digital game software or tools to create animated or cinematic content) have established positions within game discourses and industry functioning that are only becoming increasingly complex. John Banks describes this relationship as "co-creative" in his ethnographic industrial studies, arguing against viewing industrial entities and players separately, but instead as part of a linked network. Within this system, "[t]he gamer as co-creator is a social moment and a potential which emerges from this dynamic and materially heterogeneous network" (2002: 212). Banks and Jason Potts argue elsewhere that this network does not pit cultural

and economic forces against one another, but instead follow a “co-evolutionary” path in which consumers play a significant role both market and non-market goals (2010).

Working within the same methodological vein, Casey O'Donnell views co-creativity more as a potential rather than a reality, suggesting that the applications of the term convergence to digital games have overly stressed the enacted roles of consumers within vast and complex production networks (2011). Instead, O'Donnell argues that player production is deeply and uniquely embedded in the medium, but framed within complex systems of hardware, software, and regulation that simultaneously encourage and restrict the shape of “co-creativity” as controlled by entrenched institutional stakeholders (2013).

Finally, Napoli's depiction of a “post-exposure” media environment in relation to audience measurement is built into digital games, as interaction is a key touchstone of the medium. Certainly institutions are only just beginning to uncover the potential depths of this aspect of digital games, and have been reliant on emerging technologies to make monitoring and controlling these interactions both possible and valuable, but the discourses and assumptions about this possibility have been firmly in place, both within institutions and audiences.

While the model of audiencemaking suggested by Napoli thus certainly applies in many ways to digital games, his (and many others') reluctance to include digital games in pan media theories both shows the entrenched disregard for the medium from traditional media scholars as well as an indication of the continued relevance of medium specificity regardless of converging media formats. Together, this indicates the need for a mode of audiencemaking that acknowledges and reflects the nature of the digital games industry and the unique relationship between consumer and producer associated with the medium.

Digital games are especially technologically heavy artefacts, reliant on code into which institutionally shaped measurement technologies can be seamlessly, invisibly, and thoroughly integrated. Moreover, as digital games have increasingly interfaced with online systems, initially for multiplayer gaming but now routinely for product distribution and updates, the channels from player to producer have seen a drastic reduction in friction. The

result of this is that content producers can, in many circumstances, see a vast quantity of instant feedback from players, including their purchasing habits in real time, specific actions in game, and expressed feedback from online forums or Twitter chatter.

Furthermore, unlike other mass media, digital games have always had built-in processes for measuring some types of audience interaction in the form of the game itself. While television researchers must add feedback mechanisms into their studies (a pen and paper for viewers to write down their habits or machinery to track eyeball movements), from their birth games have always included devices of measurement, namely buttons and joysticks that measure user feedback and code to analyse and display it onscreen. With the rise of the internet, it has just become much easier for this feedback to be transmitted outside the specific game systems and back to producers.

Beyond the term's use here in an academic context, the institutional processes of playermaking occur within the framework outlined throughout this chapter. The actual process involves three major components: technologies of *measurement* are used by game workers in order to produce *images* of players for institutionally effective uses which then play out in a system of *negotiations* between and amongst producers and consumers. All three of these stages are deeply engaged with the core aspects of audiencemaking – fragmentation, convergence, worker-player identity, technologisation – that ultimately structure the resultant "player" at the end of this constructive process.

Conclusion

The theory of playermaking elaborated in this chapter reflects the complicated relationships between both players and producers, and the digital games media and other traditional media. While concepts developed by scholars like Ettema and Whitney (1994) and skilfully updated by Philip Napoli (2011) have significant value to studies of digital games, these types of pan media or mass communication-based approaches continue to neglect the specificities of one of today's major culturally and economically significant media forms. The differentiation of playermaking from audiencemaking, then, reflects this neglect and emphasises what digital games have to offer frameworks built on other media,

while simultaneously unpacking what scholars of digital games stand to gain from established media models.

Ultimately, this chapter argues that digital games largely follow within the existing framework of audiencemaking, but in an advanced form that has had to contend with issues like audience fragmentation, the roles and identities of workers within convergent media systems, and technological measurement and control for nearly the entirety of the medium's existence. However, the processes of constructing audiences, particularly on an institutional level, have themselves been neglected in the field of game studies, obscured by the closeness and rhetorical centrality of the player for producers, the lack of work focused explicitly on the digital games industry as an institution, and contested by the problem of defining the "audience" for games. As such, many of these issues have been left to become heavily embedded in institutional discourses, converging into a particularly complex system of playermaking practices and standards.

These systems thus reflect as much the current state of the game worker, and by extension the digital games industry as institution, as the game player it endeavours to construct. The following chapters identify and address these reflections and constructions, but as emerging out of this playermaking framework. Additionally, the remainder of this thesis moves away from the purely theoretical, incorporating the fieldwork I have conducted to investigate the processes of playermaking described here. These chapters build upon the frameworks laid out in these opening sections, using the information gathered from expert interviews to determine how playermaking occurs in actual institutions as experienced by game workers.

Chapter 4
Methods

Introduction

One of the goals of this research project is to move towards the "convergence of methods" promoted by Holt and Perren (2009: 11), and as such a variety of methods were used to investigate the industrial process of conceptualising audiences. These drew from methodologies typically used within fields as diverse as audience and fan studies, critical political economy, media industry studies, cultural policy studies, and digital game studies. While clearly this convergence of methods provides many options, the focus here was on qualitative analysis generally divided into desk research and fieldwork. The former involves a combination of historical, discursive, and political economic analyses of a variety of documented materials while the latter consists of expert interviews with digital game industry professionals that serve to supplement this material. This approach was ideal for placing the topic within a historical and sociocultural context while acknowledging the complex and fluid nature of the industrial process of conceptualising audiences.

Desk Research

Historical Analysis

The foundation for this study is rooted in desk research, beginning with historical analysis. As the focus of this study is on emerging issues, the purpose of this analysis was not to develop an exhaustive historical account of the digital game industry and its audiences, but rather to offer a clear context for current events as informed by knowledge of the past. This enables a view of today's industry that can distinguish between continuity and change, and then assess industrial developments accordingly. Not narrowly focused on the games industry, this historical analysis examined the broader sociocultural context for events,

including changes more precisely located in the realm of the audience, regulatory policies, and economic factors. Such an approach avoids the common pitfall of overemphasising the "new" in new media that simultaneously elides the past and is ill equipped to speculate on the future. Instead, by observing the "long trajectories that lead to new media in its present state," this study seeks to explore the underlying logic of the digital game industry's audience conceptualisation process in order to "develop different alternatives" for the benefit of both industry and audiences (Manovich, 2001: 10).

To address these issues, this analysis looked to a variety of primary and secondary sources including industry reports and documents, government publications and rulings, published interviews, and journalistic articles and accounts. While academic histories of the games industry are scarce but significant, other scholarly literature was also valuable in establishing relevant theoretical frameworks to guide this analysis.

In all cases, bringing together such a wide range of disparate sources required critical evaluation of each source's context to determine who was responsible for its creation and publication, what the underlying motivation for the source's production may have been, what other relevant events were occurring around the time of its publication, how the reputation or institutional status of the publication outlet may have influenced the creation and reception of the source, and who was the probable intended audience for the document or, in the case of published interviews, the statements made in them.

Discourse Analysis

Building on these historical and sociocultural foundations, this study used critical discourse analysis to investigate both internal and external institutional rhetoric. The former primarily involved critical examination of industry documents, such as white papers, reports, and intra-company communications, while the latter focused on points of discursive interactions between industry and audiences. These include the direct address of advertising, promotional material, and public events as well as the official and semi-official commentary in online settings such as forums and social networks. It also considered the roles of the press as intermediaries in the information circulation process

and in maintaining communities of game players. Beyond simply documenting the circulation of language, critical discourse analysis is especially suited for investigating "*the role of discourse in the (re)production and challenge of dominance*" (van Dijk, 1993: 249, emphasis in original). Here, it was used to engage the intersections of discourse, power, and access with regard to the relationship between the digital game industry and gaming audiences.

As Wodak and Meyer outline, there are a variety of approaches to critical discourse analysis, unified by their combined interest in discourse, critical theory, power relations, and ideology but with a wide range of methods for investigating these issues (2009: 4-10). The authors argue that the "operationalization of theoretical concepts" is the prime concern in each case. This study largely works within a combination of the Sociocognitive Approach, which stresses the "socially shared perceptions" that "result from daily life and are sustained by communication," and the Dialectical-Relational Approach's concern with the "linguistic manifestations" of "social conflict in the Marxian tradition" with regard to both discrete actions and broader structures (2009: 24-27). The methodology for this thesis follows these two traditions in taking a qualitative approach to discourse (as opposed to a quantitative corpus-orientated approach) and relying heavily on existing texts to form the framework underlying the fieldwork component of the thesis.

Because of the vast amount of information involved, particularly with regard to social networking communication and games journalism, the focus was on exemplary situations and companies. These were selected using information derived from the historical analysis and thus serve more as supporting evidence than as starting points. In all cases, the temporal and contextual features of the communications were documented and taken into consideration. When possible and appropriate, the identities of those involved were also verified, especially when attempting to isolate official voices. Even so, this does not entirely solve the issue of distinguishing between personal and official comments that, especially in settings like social networks, can be difficult to determine. However, this very blurring of the public and the private, and the distinction between work and leisure, is itself a point of discussion throughout this thesis.

Moreover, there is the potential for a disconnect between what people say in public venues and what occurs within the private bounds of the game development process. Much of this concerns the "D/discourse" duality proposed by James Paul Gee that views discourse as both "language-in-use" and as language used "to enact specific identities and activities" (1999: 6-7). A critical discursive examination thus acknowledges the influence of both context and discursive roles while also integrating this information into arguments emerging out of other sources in order to limit any potential oversights.

Institutional Analysis

Building upon the historical and discursive analyses, this thesis attempts to unpack the functioning of the digital games industry on both a macro and micro level that contextualises the experiences of digital game workers within the industry's overall functioning as an institution. As such, I draw heavily from the methodological frameworks focused on institutional and organisational analysis, which relate to both critical political economy and media industry studies. These fields inform and engage with different paradigms and methodologies of institutional analysis which variously stress organisation, discourse, history, and decision-making. My approach is most closely aligned with organisational institutionalism's focus on "interpretive and inductive strategies in order to better identify the processes and mechanics through which actors try to make sense of their situations and attribute meaning to their institutions" (Campbell and Pederson, 2001: 12).

Regardless of the specific approach, Philip Napoli argues that "[a]n understanding of the economics of media is vital to a thorough understanding of the factors shaping the evolution, behavior, content output, and ultimately, the impact of the media industries" (2009: 161). Therefore, "the application of economic tools and concepts to the study of the behavior of the media industries can provide useful insights that can contribute to well-rounded understandings of these industries and their behaviors, as well as to those of the audiences who consume their products" (2009: 168).

This thesis utilises an institutional analysis particularly emphasising organisational processes in order to develop this type of broad understanding of the complexities involved

in the economic exchanges and power relations governing the functioning of the many institutional stakeholders to be discussed with regard to playermaking. I focused on isolating exemplary companies and scenarios that bring the organisational and discursive dimensions of the digital games industry to the forefront, while also placing these cases into a broader economic and institutional context to demonstrate how the network functions as a whole.

Fieldwork

The fieldwork portion of this research project consisted of expert interviews with digital game industry professionals. The purpose of these interviews was not to gather quantitative data, but to gain special insight into aspects of the industrial audience conceptualisation process that are not otherwise easily found in the documented material upon which the rest of this study is based. As such, interviews offer a means for filling in information gaps, verifying specific instances of broader trends, gaining insight into strategic thinking and design decisions based in intuition, and providing concise examples to supplement claims made through desk research.

With regard to the specific topic of this study, interviews are also especially appropriate for a number of reasons. While the media industries are often perceived as monolithic structures, interviews give voice to the human aspect of these entities and let them provide their own interpretation of documented evidence with the benefit of insider knowledge that is otherwise inaccessible to the external researcher. For digital games specifically, the process of conceptualising audiences has historically involved a great deal of intuition on the part of game developers (Kerr, 2002; Adams, 2006). The results and explicit effects of these choices can be found in documented sources, but interviews are especially well suited to getting directly at the intuitive aspect of the process. Moreover, while the topic of this thesis revolves around the players of games, it is the way that these players are imagined and constructed that is under investigation, not the actual people who play end products. As such, interviews with game development professionals was much more in line with the aims of this study than interviews with actual players.

There are, however, a number of limitations to interviews that must be taken into consideration, most notably generalisability and selection/design biases. The former problematises the very benefit of interviews as providing first-hand interpretations of industrial functioning. The potential exists for interviewees to exaggerate or be reluctant to criticise their present employers, while even completely genuine interviews may provide information that is specific to that one company and thus not representative of the rest of the industry. However, dealing with these issues is much the same for the researcher as the process of evaluating the legitimacy of written evidence, which rests on critical engagement with the material rather than blind acceptance.

Furthermore, any interview material that drastically contradicts the findings of desk research would inevitably result in further desk research and/or corroborating interviews, thus performing the exact purpose of the interviews as supplementing and enhancing the existing desk research. Issues of selection and design bias are less severe, but must be taken into consideration from the outset. While it is possible to choose subjects and ask questions intended to provide answers supporting assumed conclusions, these limitations can be mostly overcome in the design phase through a determined effort to choose a range of interview subjects from a variety of viewpoints as well as a focus on open-ended questions.

Interview Design and Selection

For this project, interviews were designed to focus discussion on specific topics concerning the broader research questions. As the goal was to gather supplementary examples and specific interpretations from within the digital game industry, each interview was tailored in advance to the interviewee to focus on what could be gained from that specific person. The emphasis was on open-ended questions to allow interview subjects the fullest chance to express their experiences and interpretations of events, with more focused questions reserved for clarification of questions or gaps arising from desk research.

In order to provide a variety of opinions and acknowledge the wide range of products and practices that fall under the “digital game” umbrella term, interview subjects were chosen

from across industrial sectors and companies. Where possible, interviews took place in person, with the remainder occurring on the phone, Skype, or through email. As this comparative study looks at the industries of both the United States and the United Kingdom, issues of access and travel cost necessitated a careful planning stage. A broad list of potential interview candidates from both countries was pared down to focus on the most fruitful opportunities, but without losing sight of the extremely variable nature of the industry.

Table 1: Interview Subjects

Gender	Male – 12	Female – 2	
Location	US – 8	UK – 6	
Company Size	Small – 6	Medium – 7	Large – 1
Interview Format	In Person – 7	Phone/Skype – 4	Email – 3
Primary Role	Design – 6	Studio Operations – 4	Other – 4

Thus it was important to not only include the most economically significant companies or the highest ranking executives, but to focus on the companies and people best able to provide insight into the process of conceptualising game players. Table 1 shows the breakdown of several categories of the resulting interview subjects. Men greatly outnumbered women in my selection, which is both of limitation of my selection process as well as a reflection of the industry's gender disparity in the design, production, and executive roles which form the focus of this thesis. The breakdown of primary roles was a bit more ambiguous, with many interview subjects performing multiple roles at their companies. “Studio Operations” does not include executives, directors, and managers who were more or equally focused on their game design responsibilities.

Likewise, the “company size” numbers reflect the interview subjects' current employers only, which in part reflects the greater ease of access to people working at small (less than ten employees) or medium-sized (ten to fifty) studios as opposed to the more restrictive large companies (fifty plus employees). In order to combat this bias, several interview subjects were sought out specifically for their previous experience (both very recent and over several decades) at large companies but who were now currently working at smaller

or independent companies. As such, even though only one interviewee was employed by a large company at the time of interview, other subjects had extensive experience working at almost every large North American and British company. Represented companies also had various degrees of “independence” and working relationships with both larger and smaller companies. These companies variously developed games for every major gaming hardware and software platform. While some had specialities, most developed for more than one, and thus platform was excluded from the table.

Half of the interviews took place in person, either at their place of business or in public locations. These conversations ranged from approximately thirty minutes to one hour and twenty minutes, with the average length being just under one hour. The four Skype and phone interviews had a similar length range, with two lasting around twenty-five minutes and the other two lasting just over one hour. These lengths were largely determined by the amount of time available during the interview subject's workday, with all audio recorded for the researcher's reference. Face to face interviews offered an opportunity to observe the subject and in some cases their workplace, adding personal and occupational context as well as a more immediate and visible interaction between myself and the interviewee. This personal interaction along with facial and body cues were lost in the Skype and phone interactions, but with the advantage of more flexible interview coordination, particularly for developers geographically located far away.

The limitations were exacerbated with the three email interviews, which involved subjects with very restricted available time. These interviews consisted of sending questions and receiving responses, with typically a limited amount of interaction after this point and lacking the visual and auditory cues from the other interviews. However, they did offer insight into workers and companies who would otherwise not have been able to contribute as well as offering those interview subjects the ability to respond at their own pace as opposed to the immediacy of an in person or phone conversation. When bringing this material together, I attempted to be critical of the specificities of each interview's format, context and location, and time constraints.

A detailed list of the interviewees and descriptions of their roles in the digital games industry can be found at the end of the thesis in Appendix A.

Conclusion

The combination of desk research, in the forms of historical, discourse, and institutional analyses, with industry interviews as used in this study allowed for a complex yet focused examination of the industrial conceptualisation of gaming audiences. Using multiple methods increased the study's validity, minimised potential limitations of each discrete method when employed individually, and deepened arguments by providing evidence derived from a range of sources. The actual methods selected served to develop an informed historical and sociocultural context within which this process occurs while acknowledging both the specificities of digital games and the emergent quality of the specific subject. Moreover, they were especially applicable for investigating the conceptualisation of audiences as a negotiated and distributed process that occurs in multiple forms and venues, in differing ways across a varied industry (both between and within companies), and that frequently relies on information that is not readily documented.

Chapter 5

Quantifying Players:

Institutional Measurement and Control in Digital Games

Introduction

As Ettema and Whitney suggest, "In some measure, institutionally constituted images of the audience all depend *on* some measure" (1994: 9). The processes of playermaking begin with an initial stage of measurement wherein game developers and publishers seek to gather information about players. This information goes on to form the foundation for the remaining two stages of playermaking, with the assumption that data will enable the industry to construct informed images useful in making design and production decisions as well as serve as evidence in both internal and external negotiations and power struggles.

While some forms of player measurement have existed for years (such as purchasing data and information related to advertising), only recently has the digital games industry begun to integrate audience metrics and analytics into their playermaking processes on a large scale. In a very general sense, as Valve's Mike Ambinder[1] explained in our interview:

> "We have ideas we think are useful, right? We're game designers, we come up with things we think are interesting. We'll test them on ourselves, and then... as soon as we have something playable, we'll test them on external players. We're a poor proxy for our customers, you know, for a variety of reasons.. It's really tough to evaluate objectively the things you create yourself, so we collect data from the playtests we run with external folks" (Ambinder, interview, 2012).

This chapter focuses specifically on information gathering as it relates to the processes of playermaking, as informed by interviews with key figures in the digital games industry. To contextualise these processes, I begin by placing these measurement systems with a

[1]Mike Ambinder is a PhD psychologist working at Valve Corporation primarily focused on user experience and experimental physiological applications for Valve titles like *Portal 2* (2011) and *Left 4 Dead* (2008).

broader framework of media audience analysis. I then provide a general overview of the various systems and structures at work in the games industry's collection of player-focused information, and how these systems of information-gathering both reflect and structure conceptions of game players and the conceptualisation process itself. I then consider the implications of the games industry's emphasis on quantifiable user information to uncover the potential complications and opportunities that such information gathering affords to developers, publishers, and players.

Throughout this chapter, I argue that the games industry's information gathering is defined by fragmentation, technologisation, and control. As gaming audiences and their game-playing related behaviours become increasingly fragmented and technologised, the industry becomes ever-more desperate to understand and control these chaotic player and market forces, responding by themselves resorting to increasingly fragmented and technologised information gathering systems. However, this largely continues existing systematic biases and exclusions while introducing new challenges and complications for analysing, communicating, operationalising, and securing this data that all require increased investment, employment, and labour. Ultimately, this reciprocal cycle of fragmentation and technologisation in pursuit of institutional control over audiences emphasises the impossibility of quantifiable data to offer complete control over audiences engaging in a wide range of social activities surrounding games and the failure of this data to secure absolute risk-mitigation in a chaotic marketplace defined by these user actions.

Games Industry Measurement Systems and Structures

Historical Context

While this chapter does not attempt to provide a comprehensive overview of the history of media audience measurement (for a starting point refer to Beville, 1985; Wright, 1961; Buzzard, 1990; 1992), it does seek to place current shifts in the measurement of digital game players within a historical context of relevant media measurement trends. Specifically, I argue that today's games industry measurement systems emerge out of

decades of technologisation, specialisation, and fragmentation in all forms of media measurement that structure conceptions of media audiences[2].

From the very start of modern media measurement, technology has played a central role in collecting data about media audiences. While some early informal polling occurred in-person or through written diaries (which remain in use today), communication technologies like the telephone already played a major role in the collection of survey data. Prominent media audience researcher Paul Lazarsfeld shaped much of the field in this early measurement period, defining accepted methods and setting up research centres as an "institutional innovator" (Barton, 2001), asserting what Ien Ang describes as "an essentially marketing-oriented interest that decisively channelled the work of entire generations of future researchers" (1994: 11). This "dominant sociology" paradigm (Gitlin, 1978), while varied in methodology, advanced the use of measurement technologies like the Lazarsfeld-Stanton Program Analyzer (see Levy, 1982) that embedded quantitative methods associated with innovative technologies as part of a market-based approach to audience research.

This type of usage of new technologies to gain greater understanding of audience behaviour and address concerns with measurement methodologies is found throughout the history of audience measurement with devices like the peoplemeter (see Buzzard, 2002) and remains a common institutional focus today. Moreover, technological shifts more generally influence the world of audience measurement from the outside, for example the video cassette recorder's impact on the way television is viewed and thus rated, which is comparable to today's challenges of measuring "time-shifted" viewing (see Rubens, 1984; Lotz, 2007).

The constantly replayed search for greater institutional control over audiences through measurement technologies intensified in the 1960s as mass media audiences began to show indications of significant fragmentation. The corresponding industrial shift towards

[2]The vast majority of the research discussed here focuses on advertising given its centrality in North American broadcast media and the close alignment of measurement systems and technologies with the commercial broadcast market. However, it is worth noting that the increasing technologisation and reliance upon audience measurement extend to public media as well (see Stavitsky, 1995; 1998; McCain, 1985; Kent, 1994).

specialisation embedded measurement technologies in its very core, emphasising audience behaviour over mere presence, linking this behaviour to broader social change, and securing its position in the economic frameworks of the media industries. As Barnes and Thomson suggest,

> "[t]he implication for media specialization is that, while societal forces may lead to changes in media consumption behavior such as increased popularity of specialized media vehicles, documentation of that specialized behavior is necessary before the specialized vehicles can attract the economic support they need to survive in the media marketplace. In that sense, the *measurement*, of audience behavior, not audience behavior per se, changes the media" (1994: 78).

During this period, academic work acknowledged this shift towards specialisation in a cultural sense as well, linking audiences, media consumption, and cultural capital with the supposedly mass audience giving way to amalgamations of concepts like "taste publics" (Gans, 1974) or "group sets" (Escarpit, 1977). Ultimately,

> "the logic of the specialization process – that smaller, more homogeneous audiences offer advertisers more value per person than larger, more heterogeneous audiences – requires acceptable audience data to operate. Without that data, the audience has no reality for advertisers and, consequently, no value (or, at least, greatly reduced value relative to a 'known' audience)" (Barnes and Thomson, 1994: 91).

Thus, technology, audience and social behaviour, and industrial imperatives had to link up together before specialisation could become institutionalised.

Today, media and audience fragmentation has only continued to accelerate, with scholars in the 1990s noting trends towards extreme niche audiences and "mass-customization" (Mueller-Heumann, 1992) and predicting the "death of advertising" due to the disruptive power of new media technologies (Rust and Oliver, 1994). Audience measurement tools in turn have transitioned into what Philip Napoli calls "audience information systems" (2011) that can collect greater amounts of data and more types of data than ever before, resulting in a "market information regime" offering new visions of audiences (Anand and Peterson, 2000).

Napoli links these changes in institutional practices and structures directly to changes in audience behaviour and sociocultural shifts, singling out increased fragmentation of both audience and devices as well as a trend towards audience autonomy (2011). As such, while measurement systems may be increasingly sophisticated and complex in their approaches to audiences, this is only in response to the increased strain levelled upon existing systems by audience and cultural changes.

Just as audiences are fragmenting into disparate entities, so too are the media industries composed of a range of stakeholders with various investments in audience measurement. As Napoli suggests, "[d]ifferent stakeholder groups may have varying perspectives on the costs and benefits of the new measurement system; different sectors of the market may therefore vary substantially in terms of their willingness to support a change. A new measurement system represents the possibility of a dramatic reconfiguration (possibly positive, possibly negative) of all stakeholders' perceptions of their market and their organisation's place within it" (2011: 122). Measurement systems, therefore, are not natural entities that emerge from the ether in an objective fashion, but discursive structures shaped for the benefit of specific entities and a point of complex struggle among a variety of stakeholders. This chapter now turns towards the disparate types of audience measurement systems at work in the digital games industry to uncover the interplay between this broad range of institutional stakeholders vying for control of player information.

Game-specific Measurement Structures

The digital games industry, like other media industries, is composed of a range of competing interests that have guided and contested established systems of audience measurement. Today's games industry gathers information about its players in a remarkably fragmented fashion, utilising a variety of methods, models, systems, and institutional entities. Moreover, this fragmentation extends to the types of player information that the industry is interested in gathering, which now includes such disparate data as purchasing patterns, demographic spreads, and in-game behaviour. As such, game developers and publishers have no chance of establishing a concise and coherent view of

their players, but instead amass large amounts of varied player data that serve as a battleground upon which institutional stakeholders contest notions of player value.

Although the games industry's measurement systems are widely varied and attempt to capture wildly disparate types of player information, the broad structures in place generally fall into one of four categories of measurement: product release information, product usage information, in-game player behaviour information, and general reports integrating all of these prior categories. In outlining these four types of player measurement, I want to stress that these systems are definitely not discrete in their focus, but rather that almost every measurement approach attempts to incorporate elements of sales, usage, and behaviour in their understanding of players.

Product Release Information

One of the most basic pieces of user information that virtually every game developer and publisher is interested in gathering is data on the release and sale of their products. In terms of audience conceptualisation, this type of market-based information contributes to a neoliberal idea of the player defined by his/her actions in the realm of commerce. For companies, the economic necessity of gathering this information is readily apparent, as on a very basic level it allows game creators to gauge the successes and failures of their products. The most common way this is framed is in the collection of sales data, but may also include datapoints like tie-ratio (number of games sold per console hardware unit), attach rate (percentage of hardware owners who purchase a specific game or hardware accessory), or conversion rate (percentage of sales that occur after a player tries a demo, common in the “casual” or downloadable game sectors). This information is relevant not only to the makers of specific games, but provides the entire industry with a frame of reference for how individual titles compare to one another and more generally how the marketplace is faring.

In the digital games industry, however, there is no single dominant source of this information comparable to the film industry's box office numbers or American television's

Nielsen ratings[3].The closest point of comparison would be the regular reports output by large corporate market research companies, most notably the NPD Group in North America and GfK Chart-Track (a subsidiary of the GfK Group) in the UK. For their respective regions, these two sources of sales information are the most commonly cited and circulated in the games industry and the games press.

Historically, these two companies are rooted in measuring the sales of physical goods through frameworks established long before the rise of digital games (GfK was formed in 1934 and NPD began operations in 1966). In both cases, these companies more broadly focus on the measurement of product sales of a wide range of consumer goods, ranging from office furniture to agricultural chemicals. Despite both companies' clearly lengthy experience developing new approaches and methodologies for tracking retail sales data, they have struggled to provide a clear or unified image of game sales. NPD, for example, only began collecting data from US retailer Walmart in 2012 (NPD Group, 2012) after Walmart's decade-long silence (Neff, 2011), despite the fact that Walmart is one of the largest sources of retail game sales. Working on a relatively smaller scale in the UK, GfK has been more successful in scale, being able to gather data from over 90% of national retail outlets and has partnered with industry trade body UKIE (The Association for United Kingdom Interactive Entertainment) to put out regular reports on game sales (UKIE, 2012a, web).

However, though this focus on the physical may have been effective for much of the early digital games industry, today's gaming landscape involves sales through a wide range of channels, is increasingly occurring within digital spaces, has led to a dwindling retail sales marketplace, and is further complicated by monetisation strategies that destabilise the notion of a “sale” altogether. Both companies measure data from online retailers such as Amazon, but neither has been able to establish any reliable indicator of digital game sales. UKIE and GfK collaboratively launched a tentative first attempt at a digital game chart in March 2012, by their own admission only covering perhaps 40% of digital sales (UKIE, 2012b, web). A year later, UKIE officially began releasing digital sales charts, but relying

[3]This is not to imply that these systems are natural or all-encompassing, as evident in the contestation of Napoli's audience information systems, but that in both industries there has emerged a distinct and dominant reference point for sales/viewership.

on the voluntary release of information by developers and publishers (leaving hold-outs like Activision Blizzard, the largest third-party publisher, unrepresented) and only including sales on the PC, not digital sales on consoles or other devices (UKIE, 2013a, web). NPD has similarly only just begun actively measuring digital game sales in the past two years and still does not release any sort of regular report on the subject.

The information on these digital sales, especially as framed by these two companies, emphasises the complications of measuring sales in a digital environment. First, digital games are sold at a much more extreme range of price points, as determined by game size or length, production cost, and time from initial release. These gradations often result in a filtering of titles into different categories (genres on some services, or into discrete streams on services like Xbox Live, which is split into Xbox Live Arcade, Xbox Originals, Games on Demands, and Xbox Indie Games). As such, comparisons between digitally distributed titles are much more difficult to make.

Likewise, digital games employ a wide variety of monetisation strategies that blur the line between product and service, destabilising the notion of the "sale" and questioning the usefulness of a sales chart in determining game profitability or marketplace significance. The genres of Massively Multiplayer Online and social games have been highly experimental in this regard, for example, utilising such techniques as the now-ubiquitous "free-to-play" model (which defies the sales chart) and involving microtransactions, time (or time-saving) purchases, in-app cosmetic purchases, advertising support, subscription models, and additional downloadable content. Moreover, users are increasingly called upon to purchase a game directly from the developer before it is even produced, as in the case of games like the blockbuster sensation *Minecraft* (2011), or through "crowdfunding" models that are not legally able to offer a "sale," but rather a funder an "incentive" or "gift" that is frequently a copy of the game whose production the user is helping fund. All of these features destabilise the notion of a game sale and defy the logic of a sales chart.

Finally, data on digital game sales are often managed directly by game publishers, such as Electronic Arts who run their own online store and distribution platform called Origin, or through services like Steam that keep much of this information closely guarded

(presumably at the request of developers and publishers). Attempts to develop charts like that undertaken by UKIE have a difficult time constructing an accurate and verifiable picture of the market even of just the more "traditional" types of games. Journalist Matt Martin thus rightly questions the legitimacy of even the early UKIE charts because their data is entirely unverifiable, leaving the door open for industry spin, and is dominated by the few big companies that have agreed to participate, meaning the potential chart-toppers released by those companies still holding onto their information are entirely absent (Martin, 2012).

Market research firms like NPD and GfK that are only just now dipping into the digital may already be too late with a digital sales chart, or may be finding that the "chart" mentality simply does not translate to the diverse and amorphous digital marketplace. NPD has felt the brunt of a considerable amount of industry criticism for its inability to accurately represent the complex marketplace it measures, especially from publisher Electronic Arts. Representatives of the company have publicly called NPD's reports "totally irrelevant" specifically because of their inability to encompass the broad range of digital channels through which games are now distributed. EA Labels president Frank Gibeau's criticisms of NPD come in the midst of a highly publicised interview in which he also claims that EA is "going to be a 100% digital company." Gibeau states that as opposed to NPD reports,

> "We're more focused on our services and how we're connected with consumers. The number of Nucleus [EA online community] accounts we're growing, the amount of engagement time that we have, the amount of services that we're running – those are more important metrics for us than unit sales according to NPD and North America" (Brightman, 2012).

EA's John Reseburg is even more concise in his defence of his company's game Mass Effect 3, which based on NPD reports did not perform as expected. His aggressive defence is a damning attack on NPD that can be seen as a public proclamation of the entire corporation's stance on official sales charts, stating,

> "We think the monthly NPD reports are a very poor indicator of the industry's performance given the proportion of digital sales – including digital downloads via Origin, DLC [downloadable content], mobile and social games and much more – that are not captured in their reports... Taking these reports as an accurate snapshot of the industry today is a dangerous assumption" (Sliwinski, 2012).

The result has been that release of sales information about digitally distributed media, especially on the PC and smartphone, has been left in the hands of platform holders who may decide what information to release, how much of it, and when to release it. Charts like that on online retailer Amazon's website are especially common, showing the current "bestsellers" updated on an hourly basis, giving publicly available real-time sales information about how many units are moving in the marketplace. Similarly, online platforms like Steam show current bestsellers in real-time that, like Amazon, are in a consumer setting in close proximity to links for actual product purchases. However, the only data provided in both cases are units sold, which is increasingly a misleading datapoint in digital sales.

Perhaps even more intriguing are charts like those found on Apple's iOS App Store. These digital-only charts offer a much more granular approach to game sales information, with charts based on "paid," "free," and "top-grossing" apps. These categories offer a more sophisticated method of determining where a game lies in the realm of digital sales, reflecting the complications in directly comparing full-purchase games and those using "free-to-play" models based on in-game purchases and microtransactions.

While services like NPD are industry focused and meant to offer a *reflection* of sales information for use by institutional decision making, these distributor/retailer-controller digital charts are largely meant to *impact* on sales and influence consumer behaviour. In practice, that means these charts frequently appear right beside or incorporate advertisements and "featured" content or items. Moreover, they are shaped and manipulated by platform holders' own individual imperatives and controls, leading to concerns over transparency, censorship, and interference that impact both consumers and game creators.

More generally, if measurement services are only just beginning to reflect and integrate the previously invisible digital sales data into their figures, this only emphasises the other remaining "invisible" points of product release. The first of these is that occurring in other global territories, particularly as the BRIC countries – Brazil, Russia, India, China – rise in prominence for game sales, yet which are rarely noted, especially in publicly-available sales information. Second, any sort of second-hand transactions are not documented in any practical way. This includes game lending, trading, or reselling that is often ad hoc and informal, but also encompasses the vast majority of the business of used-game retailers, most notably the American company Gamestop. Stores like Gamestop sell both new and used merchandise, but structure their business around incentivising used game sales, of which no portion is returned to the publisher or developer and is therefore pure profit. In both formal and informal variants, the scale of these types of transactions is undeniably significant.

Finally, illegal game piracy is by its very nature hard to track and quantify, although there are regular attempts to estimate this type of game transmission. As digital games increasingly shift away from physical formats and retail sales, and as copying, distribution, and acquisition of illicit versions of game titles becomes streamlined, these numbers have grown especially in the PC and mobile game sectors. In the UK alone, UKIE estimated the impact of game piracy at around UK £1.45 billion in 2010 (Whitworth, 2011), though these types of industry-provided and widely disseminated estimates far exceed available academic studies on the subject (e.g. Drachen and Veitch, 2013).

Moreover, sales information may be inaccessable for independent developers without the budget to pay for access to this information, emphasising the fact that it is a commodity itself. In our interview, game designer Steve Gaynor, for example, suggested that while he does attribute some of his knowledge of audience to reports like those from NPD, it is based on seeing them previously while working for a large publisher-owned studio, but are now economically infeasible to obtain as an independent developer (Gaynor, interview, 2012)[4].

[4]Steve Gaynor is a game designer at The Fullbright Company, a small independent development studio in Portland, Oregon that developed the critically acclaimed first-person exploration title *Gone Home* (2013). He is best known for being the Lead Designer on the highly acclaimed

This economic component, along with the invisible portions of the game playing audience, emphasise that the conceptions of game players supported by sales data are constructed entirely within an economic framework that defines players based on their participation within the marketplace. While this is a very limited way of looking at players, in practice this is one of the most influential forms of player measurement in the functioning of the games industry on a macro level.

Product Usage Information

The second major category of player information is product usage information, which seeks to look beyond the initial point of sale to determine how many people actually end up playing a game. This type of information moves beyond the market-based perceptions of gaming audiences emphasised by product-release data to suggest that the act of playing is a crucial component of what defines a player. In industry sectors that have shifted away from retail models, such as social, subscription, and free-to-play games, sales data is nearly useless or simply not applicable, leading to reliance on the alphabet soup playtime metrics of DAU (daily active users), MAU (monthly active users), ARPU (average revenue per user), and ARPPU (average revenue per paying user).

In a general sense, this information has only become widely accessible and readily relied upon since the widespread adoption of broadband internet and the rise of "connected" gaming. This technological shift has meant that a large portion of game consoles and PCs used for gaming are connected to the internet while being used, thus allowing this information to be captured in real-time. A service like Valve's Steam[5], which dominates the PC platform, all but necessitates a constant internet connection just to be used, and thus is always logging information about who is playing what game, which can then be used in

Bioshock 2 (2010) downloadable content campaign *Minerva's Den* from 2K Marin.

[5]Valve Corporation is a game developer and creators of the Steam platform and marketplace which largely dominates game sales on the PC. Headquartered in Kirkland, Washington, the company is fiercely independent and utilises a highly uncommon flat management structure. The company is known for being highly experimental in all aspects of game creation, monetisation and publishing and heavily reliant on data collected through Steam. The company has a small but highly regarded stable of long-running franchises, including *Half-Life* (1998), *Team Fortress* (1999), *Counter-Strike* (2000), *Portal* (2007), *Left 4 Dead* (2008), and *Dota 2* (2013). All of these, aside from the first, began life as either independent mods or games developed by other companies which were acquired in order to be polished and released by Valve.

wide comparisons. At any given time, anyone can visit the service's public Stats webpage (Valve Corporation, 2012b, web) which offers information on the past forty-eight hours of the service. This includes a list of the top one hundred games actively being played at the moment as well as the peak number for the day and a graph of the number of users logged into Steam during this time period.

Other companies offer their own versions of this type of information. Microsoft's Major Nelson, Director of Programming and the public social media face of the Xbox 360, releases a blog post each week charting the usage of the Xbox Live service (e.g. Hryb, 2012, blog post). These charts include both sales positions (but not specific numbers) for titles digitally distributed on Xbox Live Arcade and Xbox Indie Games, alongside charts showing the number of users playing games on the Xbox and Games for Windows Live platforms. Facebook takes a less direct approach, simply indicating the approximate number of players for games in their "App Centre," using vague wording such as "Over 16 million players." Instead the service relies on its personalised approach, tailoring recommendations based on prior games played, community ratings, the play patterns of friends, and the ambiguously defined buzzword "trending."

Other services and games may approach the tracking of play information in a more individual fashion, simply indicating within the game how many people are currently playing (as seen in games like those on Blizzard's Battle.net or Activision's *Call of Duty* (2003) franchise)[6]. This is particularly useful for multiplayer focused games, in which the number of concurrent users may indicate the health of the playing field and the scale of the current pool of competitors.

[6]Activision Blizzard is the largest third party publisher in the United States, headquartered in Santa Monica, California. Activision was the first independent game publisher after the founders broke away from Atari in 1979, and have gone through numerous mergers and acquisitions in the years since. The modern company is owned by French media conglomerate Vivendi, who merged the company's name with their largest developer, Blizzard Entertainment, yet both companies still largely operate separately. Activision owns a large number of development studios with a focus on blockbuster and licensed titles, notably franchises like *Call of Duty* (2003), *Spider-Man* (2002), and *Skylanders* (2011). Blizzard likewise focuses on a relatively small number of high-profile franchises primarily for the PC including *World of Warcraft* (2004), perhaps the most successful MMORPG in gaming history, *Starcraft* (1998), one of the most popular eSports titles today, and *Diablo* (1996).

On their Stats page, Valve lay out their reasoning for releasing this information, stating "We believe that by sharing this data, we'll be able to spot problems earlier, improve the Steam service more efficiently, and ultimately build better products and experiences" (Valve Corporation, 2012a, web). While this describes the information's benefit as it relates to Valve, for developers the release of this data offers a quick and immediate indicator of how many people are playing their game (specifically as contextualised amongst all the other games currently being played on the service), which is a valuable piece of information that extends far beyond that immediate moment of initial sale tracked by the market research firms previously discussed. One example is that which game developer Caspian Prince told me in an interview:

> "What we've discovered is that gamers are split fairly evenly into two main camps: people who play the game for less than 30 minutes, and people who the game for hours and hours and hours, with a big long distribution of people in between. It's annoying because it seems that for half the people who play the game we've created 50 hours of content for nothing. The lesson we've learned is: make the games as easy as possible. Then more people see all your content, and it's not been wasted." (Prince, interview, 2012)[7]

Here, product usage information can have a direct impact not only on developers' perceptions of players and how they are using their games, but on specific design decisions such as those involving game difficulty. This trend is only becoming increasingly significant as games move to service-based models and evolutionary design approaches which aspire to create games with lifespans that last several years, giving lengthy periods of time in which to monitor product usage.

This type of player information is not only collected and utilised by platform holders, publishers, and developers, however, but in the interest of gamers as well. Steam allows its users to see how many hours of each game they have played, culminating in the assignment of a "Steam Rating" which is on a zero to ten scale based solely on playtime

[7]Caspian Prince is the primary developer at UK independent company Puppygames, along with artist Chaz Willets. They create retro-style games for the PC including *Revenge of the Titans* (2010) and *Droid Assault* (2008).

over the past two weeks. This monitoring of user playtime allows players to determine how much time they have invested into specific games both recently and historically.

This information however goes beyond this individual function, not just supplied so that players can see how much or little they have played themselves, but also allowing players the playtime statistics of their online friends or multiplayer gaming competitors. These online services serve as game-centric social networks, with the up-front personal information of services like Facebook minimised in favour of identity defined by play behaviour.

This community function of playtime data is extended in services like Raptr, Xfire, and GamerDNA that are cross-platform gaming-specific social networks that allow users to communicate, track, and engage with each other while sharing information about their gaming playtime and habits. When signing up for these services, players link their accounts from other platforms so that their Steam, Xbox Live, PSN, Blizzard, and other playtime and achievements are automatically tracked by this new social media service. Data as simple as playtime information serves a powerful identity function here as well, with game preference and time investment opening the door for social connections between people with similar tastes and engagement levels. Players may either gain or lose subcultural capital based on their devotion to a title or be able to validate social claims by referring to their play histories. These identity and social aspects of player data only expand in the following type of measurement that looks even more closely at players' actions within games.

It is worth noting that, for both sales and playtime information, the reliance on platform holders to accurately report their usage data is often taken for granted, with controversies such as Facebook's change in formulas for measuring their active users underscoring the complexity of a seemingly natural metric as well as the economic implications of this type of information (see Orland, 2011a). Eileen Meehan argues that the “audience commodity” is actively contested by different industrial stakeholders, with ratings offering “an official description of the audience” but that “discontinuity arises from the connection between that description and pricing” (1984: 221).

Thus, even though institutional entities including platform holders, publishers, developers and retailers may all desire the most complete and accurate data on audiences possible, they may very well differ in how they want that data valued, leading to complex decisions about the type and amount of data released as it affects the economic realities of game development.

Player Behaviour Information

Whether or not a person is actually playing a game is perhaps best viewed as simply the most basic of attempts to measure what people do when they play. Being able to tell whether or not a person plays a game and for how long only indicates so much about them, and thus behavioural information is increasingly integrated into the conceptualisation process. Game developers, publishers, platform holders, advertisers, policymakers, and so on are increasingly interested in player behaviour for different reasons, and therefore have been attempting to come up with ways to measure and quantify player actions within games.

Some of these systems logically progress out of the previous measurement framework, taking a more granular approach to determining what, where, when, and for how long people are gaming. Online gaming platforms like Steam, Xbox Live, and the PlayStation Network all offer what is called "presence data," which is a real-time indicator of what a player is doing. On Xbox Live, for example, this includes two pieces of information: the title of game/service being used and specific information about what a player is doing. So for example, viewing your friends list on Xbox Live, you may see a friend who is using Netflix to "Watch a Movie" while another is "Playing *Super Meat Boy*" and is "In Chapter 1: The Forest." This simple addition of indicating not only that a person is playing, but what they are doing, shows the relevance of this information to players and developers in an instantaneous fashion.

Presence data is the most immediate form of user action tracking, but the games industry regularly tracks this information for use long beyond the momentary, and in the formation of accumulated histories and aggregated masses. From the user perspective, one version of

this data is the rise of game “achievements.” With the introduction of the Xbox 360, the assignment of system-wide points to a user's Xbox profile for the completion of specific actions within an individual game took hold. These “achievements” are quantifiable enumerators of player accomplishments, feeding into a points total called a Gamerscore that allow players to compare their gaming histories and achievements with one another. This type of metagame, that tracks and quantifies in-game accomplishments on the system level, has been replicated by Steam, PlayStation Network's “trophies,” and Apple's Game Center (for a detailed discussion of the various functions of Xbox Live's Achievement system, see Jakobsson, 2011).

Achievements form the centrepiece of what Ben Medler calls “player dossiers” that, in combination with playtime and sales information, form data-driven showpieces of a player's gaming history. These dossiers serve a community function as well as contextualising a player's current gameplay within their own personal gaming history and providing an added layer of motivation beyond that provided by individual games. Thus the mere representation, accumulation, and visualisation of this data in a player-focused manner can serve as a “reward” as much as an information source (Medler, 2011). But as a constructor of identity, these dossiers create accumulations that define a “player” based on their in-game actions, playtime trends, and purchasing habits. And while achievements may be a relatively new invention, elsewhere Medler links these types of community and identity displays to other elements of digital game history such as high scores and leaderboards that have been around since the early days of the medium (Medler, 2009).

While achievements serve a wide variety of uses for both industry and players, my focus here is on how they impact on the industrial process of player conceptualisation. Achievements are only one small and very public version of player action measurement, whereas much of this data is collected invisibly and in enormous quantities (variously called metrics, analytics, data-mining, etc.).

As suggested by Napoli (2011), technological advances play a major role in this shift which is even more exaggerated in digital games with the medium's constant position at the forefront of media technologies. Of course, technological advances do not occur naturally,

but are shaped and guided by a variety of forces, including both consumer and producer demand. Whatever the consumer role, specific production decisions fall into the hands of the economic stakeholders, resulting in a relationship in which "[i]nstitutional entities exercise control over the shape of new technology, which in turn impacts users of that technology as well as the society into which it becomes embedded" (Carlson, 2006: 99).

For measurement related to all media, these technological shifts are points of contention and intense debate, with stakeholders from technology, media industry, and policy sectors negotiating which technologies will rise to prominence and what shape they end up taking. One of the most clear examples of this type of struggle is that surrounding the television technology the "peoplemeter," which despite being advanced by market leader Nielsen and eventually being widely adopted, was anything but a smooth and natural process. Instead, this technology was fraught with competitors and critics on both the national and global, was driven by the intricacies of internal business strategies and corporate diversification, and involved complex negotiations amongst such varied stakeholders as policymakers, advertisers, technology development firms, and television networks (see Buzzard, 2002). The result of these negotiations does not result in anything remotely resembling a natural progression from earlier technology to more advanced systems, but instead indicates the complexity and often arbitrary nature of the playing-out of a single incremental shift in measurement technology.

Buzzard suggests that this type of system almost always favours the incumbent, stating,

> "It is the entrepreneurial and investment functions that raise the greatest barriers to entry in the ratings field. Although more innovative and responsive to the marketplace, new entrants stumble here because the industry, despite initial encouragement and early financial backing, is reluctant to accept necessary changes in the status quo or to put the capital necessary for these functions at risk. It is this hesitation that allows monopolists like Nielsen to sustain dominance by using time-tested economic and legal maneuvers to maintain their position....The final irony of the Peoplemeter wars is that no one really likes this metering system" (Buzzard, 2002: 289).

With regard to measurement, games are reliant on code into which institutionally shaped measurement technologies can be seamlessly, invisibly, and thoroughly integrated, obscuring many of the battlegrounds on which these negotiations take place. Simultaneously, as digital games have increasingly interfaced with online systems, initially for multiplayer gaming but now routinely for product distribution and updates, the channels from player to producer have seen a drastic reduction in friction. Dallas Snell described this as an unprecedented shift for online games, explaining:

> "The game is actually running on our server... and on their home machine it's just a client that's linking to that server, so all the data is going back to that server for every keypress they make, for every level they make, and how many minutes did it take them to make that level, and how many times did they die getting to that level. So now we've got the best sort of interaction with the customer you can possibly have, which is we get to map their every move and do behavioral analysis, not subjective feedback." (Snell, interview, 2012)[8]

The result of this is that content producers can see a vast quantity of instant feedback from players, including their specific actions in game as well as feedback located in external locations like online forums or Twitter chatter. While much of this feedback is attained by content creators in a very informal way, attempts to quantify and operationalise social media "buzz" have already begun to be implemented by traditional measurement firms, such as the "Nielsen Twitter TV Rating" (Nielsen Company, 2012, web).

Moreover, the rapid rise of analytics technology for games has meant that those companies that have adopted these systems are integrating them exceptionally deeply. One Vice President of social games giant Zynga has even gone as far as publicly claiming that the company is "an analytics company masquerading as a games company" (Wingfield, 2011) benefiting from "the largest data warehouse in the world to track the behaviour patterns of its players" (Stuart, 2011).

[8]Dallas Snell is an industry veteran, best known for his work at Origin Systems in the 1980s and 1990s beginning in development before becoming Origin's General Manager when the company was acquired by Electronic Arts. Snell now manages Portalarium with former Origin partner and fellow industry veteran Richard Garriott, initially creating social games like *Port Casino Poker* (2011) but now focusing on the role playing game *Shroud of the Avatar: Forsaken Virtues* following a highly successful Kickstarter campaign.

Metrics Fetishism, Social Engineering and Creative Measurement

For some game designers, this shift is a troubling advance towards what designer Chris Hecker calls "metrics fetishism," which echoes Todd Gitlin's description of the television industry's "fetish of immediate numerical gratification" regarding ratings (1983: 53). On his development blog (as well as in public lectures aimed at other developers), Hecker positions the rise of metrics as a break from traditional "intuition" based game design that is not inherently bad, but takes issue with both the type and motivation behind this data gathering. He claims that "the problem is that we tend to gather the data that is convenient to gather, *we worship that data because it is at least some concrete port in the storm of game design and player behavior*" (Hecker, 2010, blog post, emphasis in original). Hecker's criticism suggests that data only offers an illusion of control within the chaos of the marketplace and the uncertain nature of player action (both in the marketplace and within games), and that the reliance on such an illusion can have disastrous or damaging results when extrapolated upon.

Stepping back from games to look at another medium, radio, media scholar Marshall McLuhan insists that these systems are more sinister, and that "American 'market research' … has a strong totalitarian squint – that of the social engineer." He contends that

> "...this kind of action for direct social control is politics. It aims not only at providing more and more sensation, but at the exploitation of all emotional sets and preferences as just so much raw material to be worked up by a centralized control for purposes of super-profits. Clearly the manipulators of such controls are irresponsible and will probably so continue as long as the flow of merchandise and profits remain unchecked" (1947: 436-437).

For McLuhan, these types of attempts to scientifically uncover the roots of social and individual action are never benign, but indicative of systems of power exploiting scientific methods for economic gain and the continuation of the status quo.

An extreme version of this type of game-less metrics fetishism can be seen in what is loosely called "gamification." This is the application of game-like concepts and systems to

non-game activities, involving the assignment of points and achievements typically reserved for in-game actions to real-world games and activities, often to be exploited by voracious marketers. Services like Foursquare that allow users to “check-in” via their smartphone at local businesses in the pursuit of virtual “badges” and “levelling up” their presence at different locations are mostly devoid of much actual gameplay. Instead, they make the pursuit of pure “points” or status the sole focus in place of any of the other more creative, playful or skill-orientated elements of other games. Particularly in real-world situations, these systems have the potential to significantly alter social behaviour and activity, usually aimed at a specific consumerist outcome (e.g. increased frequency of visits to a specific chain of coffee shops). This is obviously ripe for abuse, leading to scholar Ian Bogost's coining of the term “exploitationware” to describe gamification . He views these more as consumer loyalty programs rather than meaningful ludic interactions, designed primarily to shape and manipulate consumer behaviour along the same lines as those described by McLuhan (2011).

Other designers see benefits to these new streams of player data that have the potential to improve game creation beyond mere economics (as well as their increasing reach into the “real” world). In her book on the radical positive potential of games, Jane McGonigal suggests that measurement data lies at the centre of what makes game *play* exciting and motivational by providing a crucial level of system-to-player feedback on the player's actions. She argues that

> “Real-time data and quantitative benchmarks are the reason why gamers get consistently better at virtually any game they play: their performance is consistently measured and reflected back to the them, with advancing progress bars, points, levels, and achievements. It's easy for players to see exactly how and when they're making progress. This kind of instantaneous, positive feedback drives players to try harder and to succeed at more difficult challenges” (McGonigal, 2011:157).

McGonigal argues in favour of “gamification” strategies for real-world applications that take advantage of the measurement lessons learned from games because regardless of venue and situation, “[w]e need real-time data to understand our performance: are we getting better or worse? And we can use quantitative benchmarks – specific, numerical

goals we want to achieve – to focus our efforts and motivate us to try harder" (McGonigal, 2011: 157).

For McGonigal then, any information derived from players is an opportunity for game designers to engage with new gameplay ideas and have more consistent and meaningful impacts on the lives of actual players, and thus developers should encourage the collection of as much as possible in the pursuit of both game improvement and global happiness. She states,

> "[t]he more we start to monitor and self-report our daily activity, whether through GPS, motion sensors, biometric devices (to track heart rate or blood sugar levels, for example), or even just with manually entered status updates, the more we'll be able to chart our progress, set goals, accept challenges, and support each other in our real lives in the way we do in our best games" (McGonigal, 2011: 163).

Similarly, famed British designer Peter Molyneux sees the plethora of available player data as a dream come true, enabling developers to personalise game storytelling like never before. Interviewed on a BBC radio documentary, he states:

> "I've been talking for years about interactive storytelling, I've been talking about moulding stories around people's lives. At last! We can do it... because we have access to your life... If you go on Facebook you are putting your life into a digital world, and game creators and designers can have access to it" (Krotoski, 2012, radio).

Moreover, in today's digital world, people are already readily sharing much of this information on the internet and game designers merely need to figure out how to effectively tap into it, providing a shortcut to previously onerous methods of understanding players. Molyneux continues,

> "I could ask you a Myers Briggs questionnaire at the start of the experience, you know 200 questions to find out who you are, no-one's going to do that. But we've already got that now. We've already got your digital life, and you're living your digital life, with all its fears and all its excitements, you're sharing your life with people around you" (Krotoski, 2012, radio).

Indeed, today's digital identity means many people freely share their personal details on the web not only for friends and family, but with an acknowledgement that this information will be utilised and monetised by a variety of digital stakeholders like advertisers or platform holders, many of whom are one in the same (such as Facebook and Google).

However, this focus on the already-connected and those audience members with increasingly digitised identities neglects the invisible audience of those game players who are not digitally connected and actively engaging with or allowing their data to be captured by measurement services. While digital games are increasingly a connected endeavour, a large portion of players ceases being measured beyond the initial point-of-sale, playing games entirely offline without ever connecting the consoles to the internet.

Though sales data captures most paying players, this percentage of total gamers is automatically diminished when looking at playtime or behavioural information. The emphasis on established systems for measuring behaviour for industrial decision-making has thus meant that these features of audiences play an exaggerated role in conceptions of players, implying that players are defined by their actions without taking into consideration elements like the sociocultural, communal, or emotional role of gameplay.

Chris Wright of GamesAnalytics summed this up in our interview by saying that the focus of metrics solutions is on “how they play the game not who they are... because that's much more powerful.” This is at least partially for practical reasons, as Wright claimed that at least on services like Facebook, demographic data is “mostly wrong” or not filled in, making behavioural data one of the only reliable pieces of information available through these systems (Wright, interview, 2011)[9].

In the world of social games in particular, the three main concepts focused upon with metrics are player acquisition, retention, and monetisation. Much like Meehan's “audience commodity” (1984), this wording implies a “player commodity” that the games industry defines by accumulation and economic exploitation. Thus, behavioural data serve a similar

[9]Chris Wright is the CEO of Edinburgh based Games Analytics, a firm that works with developers and publishers to offer proprietary data mining and metrics analysis tools and services.

role as the sales and playtime data in contributing to a consumerist approach to conceptualising players.

Many game developers with whom I spoke recognise this limitation of what current analytics solutions were able to track, with Brenda Romero, for example, noting that "the metrics don't show the emotion behind the decisions" (Romero, interview, 2011) while Greg Kasavin largely dismisses established market research as "pseudoscience" attempting to use data from the past to predict the future without accounting for change (Kasavin, interview, 2011)[10].

As such, while this type of behavioural data can certainly be useful for game design decisions, production choices, and institutional strategies, these reports are most effective when used in combination with other data points and data types to develop a more complex vision of the gaming audience.

General Player Reports

While companies may gather sales data, playtime data, and player action data separately, there is a substantial amount of user research that attempts to take a broader view of digital game players. These more general reports typically incorporate all of the previously described measurement systems, but with the aim of providing a more overarching view of the state of game play and gaming audiences than the other more specifically-tailored measurements. A variety of institutional stakeholders has undertaken these types of studies, including industrial trade bodies, data and investment analysts, and platform holders themselves.

The games industry's trade organisations are often the source of many of the most extensive regular reports on gaming audiences. This is likely for a number of reasons. First, these organisations are already in contact with developers and publishers on a regular

[10]Greg Kasavin is the Creative Director of Supergiant Games, based in San Jose, California. Formerly a games journalist, Kasavin shifted into development in the mid 2000s working at Electronic Arts and later 2K Games. Supergiant is a small independent development team known primarily for their first downloadable title, the critically-acclaimed *Bastion* (2011).

basis, requesting or even requiring them to submit information about their audiences for reports. Second, they represent the industry's interests, so are thus seen as a “safe” outlet into which individual companies may release information without fear of it being used against them in a damaging way. Third, they are frequently used in policymaking situations to advance industry interests. Finally, these organisations often sponsor, fund, represent, or are run by members of the industry and thus form part of the industry's relatively insular economic circuit.

Several notable organisations release these types of reports. In the United States, the Electronic Software Association (ESA) releases the annual “Essential Facts” report that looks at “Sales, Demographic and Usage Data.” The International Game Developers Association (IGDA) releases a number of different white papers on a routine basis, covering topics focused on industry functioning (such as Quality of Life or Diversity) but also specific industry segments as defined by their special interest groups (SIGs). White papers like those of sectors such as the Casual Games SIG include fairly extensive segments defining and examining the specific audience segment associated with “casual games.”

In the UK, industry trade associations UKIE and TIGA (The Independent Game Developers Association) release reports detailing audience information. In some cases, this information is publicly available, while much information is kept for organisation members only. On their website, UKIE, for example, promotes the fact that “UKIE exclusively owns the UK video game charts and gives its members access to numerous consumer and market reports. Members also receive free of charge quarterly market trends reports” (UKIE, 2012c, web). They do have available on their website a concise fact sheet as well as briefing sheets and policy papers more specifically targeted for regulatory purposes. TIGA's reports are geared more towards development and investment than for public information, and as such are available in the “TIGA Store” for fees ranging from UK £55 to £120. The EU-wide Interactive Software Federation of Europe (ISFE) performs a similar role utilising a partnership with GameTrack to measure data from multiple European countries including the UK.

Beyond industry trade bodies, market research and data analysis companies also perform their own measurements and release their own reports. Media measurement giant Nielsen has expanded beyond television and radio, now periodically releasing statistics and studies about all sorts of consumer behaviour and media consumption including that involving digital games. Similarly, analyst firms like DFC and IHS Screen Digest routinely conduct their own market research with a focus on the business and investment end rather than specifically focused on user experience. Regulatory bodies also perform research on media consumption that touches on digital game players, which in the UK includes Ofcom (though this is mostly in relation to broadcast viewership), while research-oriented and grant-funding body NESTA also publishes reports related to game players and the games industry (e.g. Ofcom, 2012; Livingstone and Hope, 2011). The platform holders themselves also release player information and reports, most notably that emerging out of Microsoft's user research and advertising departments.

Finally, independent research companies like VGChartz track and release global sales data publicly and to a much greater degree of transparency than companies like NPD, even showing their estimated sales numbers. However, they also offer an industry-focused, paywalled “pro” service, which they promote as “the video game industry's leading information service, bringing industry-level market intelligence to clients with a suite of powerful tools covering retail estimates, pre-order estimates, purchase intent, consumer awareness and much more.” This service is geared explicitly at publishers and developers, investors, marketers, and retailers, offering customisable analysis tools, bespoke services, proprietary research reports, and increased granularity and quantity of information (VGChartz, 2012, web). Unlike the other sources describe here, however, VGChartz emerged out of a convergence heavy internet background and is the publisher of the larger VGChartz Network that includes websites dedicated to gaming reviews (gamrReview), videos (gamrTV), and community/social networking (gamrConnect) as well as hosting community forums and posting gaming news on the main VGChartz page. For the social game space, AppData offers a remarkably similar network and service portfolio with both public and “pro” features, social media hooks, and news-focused blogs.

While the measurement systems described in this section are thus either primarily for industry sources or priced to encourage such, even within game development these figures may not be obtainable, often for economic reasons. Almost all of the independent developers with whom I spoke who did utilise market research reports relied upon those that were publicly available as opposed to those gated behind expensive paywalls. For example, Andrew Smith explained to me that "I'm sure you can buy market reports for several tens of thousands of dollars... but that's not something I can stretch to, so I try and trust my instincts" (Smith, interview, 2012)[11].

This indicates that those stakeholders controlling the flow of this publicly available information hold an exceptionally significant role in the information that eventually winds up influencing game developers. This not only includes the platform holders who determine what information to release or the service providers and report publishers responsible for collecting, analysing, and maintaining the databases and charts displaying this data, but also the specialist games press that circulates this information.

The supposed objectivity of the scientific quantitative data underlying these measurement systems ultimately exists only within the complex and fragmented discourses of the games industry, shaped and manipulated by constantly shifting systems of power. In the four cases described here – sales data, playtime information, in-game actions, and general reports – attempts to understand game players by quantifying their behaviours play out in different ways and with different views of what is most significant about players, but they all rely on quantitative data to naturalise their findings and imbue them with a sense of the all-encompassing and commonplace.

Ultimately then, digital game measurement systems follow Ien Ang's description of a "ratings discourse" that is not real, but symbolic, and "enables the industry to know its relationship to the audience in terms of frequencies, percentages and averages" in a

[11]Andrew Smith is a designer for his own independent company Spilt Milk Studios, based in London, primarily developing smartphone games like *Hard Lines* (2011). Prior to starting his own company, Smith worked as a designer for Scottish studio Proper Games on the award-winning *Flock!* (2010).

“symbolic world created by ratings, a world inhabited not by actual audiences but by a discursively constructed 'television audience'” (1991: 50).

This chapter thus argues that the dynamics of the games industry and the systems of power at play within it and its discourses are not surmounted by the focus on scientific methods, but instead end up structuring every element of them. The turn towards player measurement thus does not bypass the biases and complications of other modes of conceptualising players, but actively disavows the inevitably problematic nature of all player conceptualisation in pursuit of greater institutional control.

Measurement Implications

Institutional control thus lies at the very heart of the games industry's usage of player measurement systems. Returning to Ettema and Whitney (1994), audiences can only ever become institutionally effective when they (or some aspect of them) can be measured and determined to have a quantifiable relevance. This circular relationship relies on a constant influx of information about audiences to either confirm or disconfirm existing conceptions, either as internally circulated or to external stakeholders. The measurement systems just described and the games industry's usage of them ultimately revolve around issues of control, with quantitative data helping to navigate a chaotic and rapidly changing marketplace, make sense of the vast complexity of player interactions with games, and serve as demonstrable evidence in the advancement or justification of production decisions.

Ien Ang's reading of the industry-audience relationship for television is crucial here, viewing measurement in terms of knowledge, truth, power, and control increasingly mobilised through scientific discourses. This campaign for empirical data about audiences is part of a “politics of knowledge” with the end goal of constructing “a kind of truth that is more suitable to meet a basic need of the institutions: the need to control.” Measurement “purports to incorporate elements of the social world of actual audiences into its discursive realm of visibility,” which then becomes valuable in the attempt to harness control over the unknowable actual viewers and the vast amounts of potential information that comes along

with it (1991: 7-10). This value can then be translated into other forms of capital as the resultant audience conceptions become institutionally effective, helping guide production and marketing decisions, sold directly to advertisers, or monetised through corporate investors, funding bodies, and venture capitalists.

However, as Ang argues, these attempts will never be able to fully condense the vast complexity of social engagement with media into a quantifiable piece of information and thus always produce incomplete images of audiences. While on a broad scale this is inevitable, for media measurement generally and games measurement specifically, there are always practical reasons why metrics-based approaches to audiences become problematic, most notably those revolving around cost and value, creativity and labour, and data analysis and set size.

Cost

While metrics offer a number of new opportunities to game developers and publishers, this requires closely integrating metrics into core workflows and investing in in-house analysis which are considerable costs. The analytics services provided by Games Analytics, as described in my interview with Chris Wright, involves systems designed to address many of the assumed limitations of metrics, but admittedly for a price that causes some potential clients to balk. Wright contends that game developers should be prepared to spend 10% of their total budget on understanding their users (including metrics), but that very few companies actually do this (another interviewee described his company's investment as “a very small percentage” of the overall budget (Anonymous A, interview)). However Wright insisted that these costs aren't prohibitive (except for extremely small developers), but rather that most companies simply revert to what they know and continue to direct their budget towards graphics, features, or game content while refusing to accept that that the industry has changed (Wright, interview, 2011).

Metrics solutions have been most readily adopted by the largest companies and those who focus specifically on them, regardless of size. Developers of blockbuster “AAA” titles with large budgets and broad target audiences invest millions (or billions) of dollars/pounds into

audience information systems in a risk averse attempt to ensure a future financial success (see Thompson, 2007). On the other hand, social games studios founded on the idea that smaller games with smaller budgets offer less individual risk and more chances for success have also come to heavily rely upon metrics. For these companies every individual user's behaviour matters and, as they target smaller more specific audiences, it is imperative to make sure audience potential is maximised.

Social game megastudios like Zynga and Wooga that attempt to reach the larger and broadest markets as possible follow in the footsteps of AAA developers in their search for blockbuster success, but combined with the benefits of social game platforms (see Cheshire, 2012). In both cases, these games almost exclusively exist in online ecosystems, meaning easy connections between player, product, and producer. Most often these are social networks like Facebook and Google+ (or proprietary services like Big Point) that include APIs, infrastructure, developer communities, and independent dedicated analytics firms (like Games Analytics) willing to provide software solutions to lower the costs of investment in measurement technologies.

Also at issue is that measured data only becomes available retroactively, meaning that designers must either be able to change a game after it has been released or invest in measurement early on in the development process (before the game has been released to its eventual audience, thus requiring speculation about who designers assume will play the game anyway). From a design perspective, this means that metrics often primarily focus on problems with existing designs rather than providing information useful for fresh new ideas. As game design director Brett Norton described in our interview, measurement projections are often performed by

> “a combination of business and marketing... they have a… more clear picture of what people are responding to, but that doesn't make them good at predicting what they want. Marketers have a terrible tendency to look at focus groups and operate in an entirely reactionary state, and without good predictive design... The trick, the complexity, the biggest problem with game development as a whole is that it's very easy to

> have reactive design, and it's very difficult to have predictive design that's successful continuously..." (Norton, interview, 2012)[12]

Consequently, measurement data is most useful for working on a service model (such as those dominating social or massively multiplayer online game companies), as their games' extended lifespans means measured data can be incorporated into the games while people are still playing.

Measurement data also becomes exceptionally important not only for the current product but for future products, incentivising both sequelisation and sharing of information between a company's different projects. Indeed it is increasingly the case that large global game publishers will develop their own game technologies or engines for use across their owned development studios as a means of cutting costs on externally licensed technologies, opening the door for long-term engine iteration (continually updating the game engine over subsequent game releases), and more effectively enabling globalised cooperative development between specialised studios.

For example, Electronic Arts studio DICE initially created the Frostbite Engine for use in their first-person shooter *Battlefield* series, updating the engine with new releases of the franchise, but it is now used across a variety of global Electronic Arts studios in other shooters (*Medal of Honor: Warfighter* (2012)) as well as genres spanning driving (*Need for Speed: The Run* (2011)), third-person action (*Army of Two: The Devil's Cartel* (2013)) role-playing (*Dragon Age: Inquisition* (announced, 2014)), and even real-time strategy (*Command & Conquer* (2013)). This internal sharing of proprietary technology extends to measurement systems and social games, with companies like Zynga directly building upon the designs, technologies, and measured information from previous titles in the creation of subsequent games (which is most clearly notable in the similarly named games of the "ville" series, e.g. *FarmVille* (2009) to *FrontierVille* (2010, now rebranded as *The Pioneer Trail*) to *CityVille* (2010) and so on).

[12]Brett Norton is the Design Director and Vice President of Studio Operations at independent TimeGate Studios in Sugar Land, Texas. The company is best known for PC strategy titles like *Kohan: Immortal Sovereigns* (2001), expansion packs for the *F.E.A.R.* franchise (2005) and the multiplayer shooter *Section 8* (2009).

The decision to invest in metrics *instead of* traditionally valued aspects of development is one that may pay off in the long run (Wright all but guarantees a 20% increase in revenue after implementing his analytics solutions) but from the outset that is a hard sell for companies used to the status quo of development budgets (Wright, interview, 2011). Moreover, it diverts attention away from what has traditionally been seen as the "creative" side of the development process and funnels it into what many see as the business's crass commercial side.

Creative vs. Data

While this new influx of methods and strategies for using player data may seem to afford game developers a bevy of new options in the creation of their games, much response has been resistant and drawn along the lines of crude commercialism interfering in creative work. Worried about becoming "slaves to the ratings tyranny" (Hagen, 1999) or falling prey to Hecker's "ratings fetishism," many developers view the rise of focus on metrics as a direct threat to their creative integrity.

In our interview, Chris Wright expressed some of the common concerns, stating,

> "Getting designers to understand this [analytics] is a real challenge...I don't think they like the idea...they think it's taking away some of the[ir] creative capabilities...they would much prefer to be designing what they want to design rather than thinking that analytics can design. Now, analytics can't obviously, all you can do is tell them what's right and what's wrong." (Wright, interview, 2011)

As such, the threat of metrics is ultimately that "designers don't have anywhere to hide anymore" if the metrics show that a design choice is not working (Wright, interview, 2011). This presents a scenario wherein metrics are always on the side of the regime of "truth" and relied upon to make concrete decisions or resolve disputes instead of other previously used information sources (such as professional experience or training), disrupting existing workplace hierarchies.

The workplaces of both large companies and outsourced measurement must also contend with a significant labour and skills component to incorporating measurement techniques into game development, raising issues of communication and expertise. Despite offering independent services, Chris Wright contends that his company's approach works best if clients already have their own in-house analytics or business intelligence team, suggesting that additional costs may include both external payments to dedicated analytics teams as well as the payroll for internal employees (Wright, interview, 2011). Moreover, game designers are rarely trained data analysts and measured data rarely provides specific information on how a designer can use it for concrete code changes.

In our interview, designer Brenda Romero described her social game company Loot Drop, for example, as a "producer free" development studio that largely leaves metrics work to their publishing partners, indicating the increased strain these technologies are placing on existing negotiations between publishers and developers. However, Romero suggests that with audience feedback, "the challenge is who is receiving that [feedback]," and that while data analysts may be able to identify problems, they don't necessarily know how to fix them. Her suggestion is to bridge this gap, for "you as a PM, a producer, you come to us with problems, let us interpret the problem, let us, as the doctors interpret the symptoms that you see, and then let us suggest the solution..." This ultimately comes back to knowledge of players, with Romero recounting a bug that was solved only when brought back to her as a designer whose simple revelation of "so let me think about the player" had not been fully considered by the producers (Romero, interview, 2011)[130].

This disparity in who actually understands players indicates an exceptionally contradictory situation in understanding players, as analysts with reams of data may either lose sight of players or lack the practical knowledge of them while designers working primarily based on intuitive or experience-based audience knowledge without quantitative data still have a better comprehension of players, but without the hard data to back up their assumptions in

[130]Brenda Romero (formerly Brenda Brathwaite) has worked as a designer in the digital games industry since the early 1980s, best known for the *Wizardy* (1981) and *Jagged Alliance* (1994) series. She has worked for a range of companies including Electronic Arts, Sir-Tech, Firaxis and Atari and is a highly visible and prominent figure within the industry. She currently serves as COO and designer at independent studio Loot Drop on social games like *Ghost Recon: Commander* (2012).

industrial decision-making contexts. While this certainly is not a uniform condition across the digital games industry, it emphasises the weight of institutionally agreed-upon images of players (as discussed in the following chapter) and the necessity for close communication or integration of gameworkers with specialised knowledge and skills.

This type of interconnected work environment merging measurement data and creative expression is perhaps best embodied by PC giant Valve Corporation. Throughout our interview, Valve's Mike Ambinder described the company as "data-driven" in almost every regard, using the rhetoric of science to discuss their approach to game design as a "hypothesis" with playtesting used to experiment in the creation of the product. While the company is a flat hierarchy where workers are encouraged to follow their creative desires and intuitions without need of bosses or strictly defined job titles, Ambinder stressed the significance of data in developmental decision-making and in convincing others within the company of the importance of specific projects (Ambinder, interview, 2012). Though Valve is in a unique position as a platform holder with access to vast quantities of data and deep pockets that allow for extended development cycles and radical experimentation, their success indicates that even in the most data-driven and scientifically-motivated workplace environment, creativity can work hand in hand with technologised measurement.

Big Data

There is no question that today's media landscape is inundated with data to the point that making sense of it all is just as challenging as collecting it. As media industries collect ever-increasing amounts of data about their audiences, the level of complexity of this data and the amount of labour and expertise required to analyse it increase as well.

The problem of analysing vast quantities of data is not new or restricted to games or new media, however. Barnes and Thomson argue that in magazine publishing in the 1960s, the advertising concepts "reach" and "frequency" brought together audience segments (reach) and a more granular depiction of their behaviour (frequency). However, "the complexity of the data" proved to be the stumbling block despite the fact that the actual data was fairly readily available, and that "[t]he necessary computing power to calculate national reach

and frequency estimates was simply not available to advertising agencies until the 1960s" (1994: 80). As is routinely the case in media measurement, this turn towards advanced technologies to address the complexities of data analysis only ends up leading to the desire for even more complex measurement and analysis.

In the search for greater institutional control in an unstable marketplace involving unpredictable users, the problem has now become that which is called "Big Data." Chris Wright described the amount of data his company collects for companies as involving multiple terabytes of data, which is a significant challenge for data analysts (Wright, interview, 2011). Moreover, while metrics have been extremely successful in social games, these games have relatively few behavioural datapoints to track as opposed to the extremely complex AAA titles which offer a huge number of different types of information about what a player is doing at any given time.

While this "problem" is certainly a significant challenge for data analysts, new media scholar Lev Manovich sees this as a huge opportunity for researchers. He states,

> "The rise of social media along with the progress in computational tools that can process massive amounts of data makes possible a fundamentally new approach for the study of human beings and society. We no longer have to choose between data size and data depth. We can study exact trajectories formed by billions of cultural expressions, experiences, texts, and links. The detailed knowledge and insights that before can only be reached about a few can now be reached about many – very, very many" (Manovich, 2011: 2).

In digital games, this has most concisely been manifested in the rise of the beta test, in which developers release nearly-completed portions of their games to be tested by millions in the public[142]. In our interview, Mike Ambinder described this as overcoming some of the traditional challenges of in-person playtesting – like constrained data sets and the limitation to test populations of those in the developer's immediate area – and enabling companies to test their products for problems that only manifest themselves in large-scale

[142]The term "beta" refers to the stage of development immediately preceding full release where most major game-ending bugs have been eliminated, and that follows the "alpha" stage where a game is feature complete but not yet broadly tested.

scenarios (Ambinder, interview, 2012). These beta tests are constructed specifically around data collection, with developers tracking an immense number of specific game features to pinpoint emerging patterns like weapon balance and map flow that are only brought into relief once an action (like gun usage) has occurred thousands of times or more.

In terms of players, a test group of millions is a much more accurate representation of the eventual playerbase than a small select group, allowing developers to more closely approximate the eventual audience their game will reach. However, beta tests continue to reify notions of audiences defined by actions, as well as increasingly by their position in the market with beta tests often offered as “pre-order” incentives to confirmed customers and, even when this is not the case, skewing towards those people already interested in purchasing the title, meaning the feedback from unknown potential players is missing.

Player measurement systems certainly offer the games industry an unprecedented opportunity for deeper understanding of their players, but issues like cost, labour, and scale all come together to make the implementation of these systems complicated. As datasets only expand in size and scope, the cost will in turn rise along with the need for dedicated data analysts with increasingly specialised skills and knowledge that further separate them from traditional game developers. Companies like Valve that are able to integrate these various systems under one unified roof are positioned to take advantage of the opportunities afforded by measurement systems, but they become an exceptional challenge to smaller companies. Here, fragmentation may end up taking the form of specialised outsourcing, but this may only complicate communication and deepen the rift between those focused on creative or data analysis. Therefore, conceptions of players in these situations will likely remain relatively unchanged, defined largely by their market activities and in-game behaviours.

Conclusion

In many ways, the games industry's approach to player measurement is indicative of the broader technologisation of our everyday lives, with technological services like Facebook playing a growing role in such disparate realms as global communication, individual

identity, and political discourse. As people embed their lives into these types of connected technologies, they translate this information into a digital format that can be measured and exploited by a variety of interested parties.

This offers the media industries an unprecedented opportunity to gather large amounts of information about the likes and habits of previously unknown audience members, much of which occurs invisibly. At the same time, these technologies introduce new complications into efforts to understand audiences, such as data privacy and questions about what information is worthy of measurement, while also continuing to incorporate traditional biases through a localised, distanced, and exclusionary system.

New audience measurement technologies, then, serve certain aspects of media and digital game production more efficiently than others while simultaneously exacerbating existing issues of worker communication and corporate economic disparities. Regardless, their potential for extracting more value from unknown or untapped audiences makes measurement technologies increasingly appealing to institutional stakeholders, while technological advances and the near ubiquity of internet access has meant highly sophisticated and deeply integrated measurement solutions are now possible.

Despite these rapidly transforming circumstances, these strategies still reflect institutionally shaped measurement imperatives and desires for control, helping to create conceptions of game players defined by institutional effectiveness and framed primarily in economic and behavioural terms. The outcome of these measurement systems – an "image" of the audience to be utilised in the production process – has remained relatively stable. The economic constraints of highly sophisticated measurement systems, the complexities of comprehending and operationalising massive data sets, and the increasing technologisation of even the most casual forms of information gathering has meant that for many game developers, these new advances have meant only new ways to reach the same ends when it comes to actually creating a game.

Chapter 6

"I Am First and Foremost My Audience": Images and Models of Digital Game Players

Introduction

In the second stage of playermaking, digital game companies use the information and data they have gathered to create images of their players. These images go on to be formulated into broader models that can be put to use for specific design and production decisions, and are able to be shared across the production chain. Eventually, these images and models circulate into broader discourse to be negotiated with actual players in the third playermaking phase.

As James Ettema and D. Charles Whitney simply state, “Professional mass communicators don't seem to have a very clear or complete image of their audiences” (1994: 6). My interviews indicate that this is generally the case for the creators of digital games, as evident in one developer's comment that “we don't really consider our audience... we just look at the audience as a sort of massive heterogeneous blob that we serve as best we can” (Anonymous B, interview).

The creation of these types of audience images is not unique to the medium of digital games, but rather plays a critical role in the production of virtually every other major form of media, ranging from television (Ang, 1991), music (Ryan and Peterson, 1982), and film (Kapsis, 1986) to fine art (O'Regan, 2002; Gillard, 2002). This chapter focuses on unpacking what actually penetrates into and structures these vague images, while questioning whether or not vague images are a problem for game makers.

In terms of player images, my argument here falls along three lines. First, despite rhetoric emphasising the “newness” of new media formats, I argue that the way digital game

creators make images and the forms they end up taking fall closely in line with those of traditional media like film, television, and news media. This is significant in enabling a study of games to benefit from established scholarship focused on other media.

At the same time, there are a number of issues revolving around media specificity where digital games diverge from other media. These include the games industry's focus on individual players rather than grouped mass audiences, in part due to the assumption of interaction for every individual engaging with the medium. Thus, issues of passive versus active audiences, while still central to the construction of gaming audiences, are framed in very different ways. In adapting pan-media audience models to take into account the specificity of the games medium, I therefore expand the concept of the "audience image" into a combination of three other types of images: the player image, the product image, and the platform image.

Finally, the images and ways of creating them reflect changes to media and media work today, most notably in becoming increasingly technologised, deterritorialised, and personalised (Deuze, 2007). These features inflect both the ways game workers develop ideas about their audiences and the resultant images, meaning images of game players are closely based in technology, marginalise or disavow specific geographic implications, and focus on individuals and identity over features shared by masses. This has meant that game workers typically hold especially complex, yet largely ambiguous images of their audiences, which is something common to all mass media.

When these images are broadened into industry-wide models of players in order to more fluidly guide broad aspects of the industry, they build upon this technologised, deterritorialised, and personalised ambiguity in which players both shape and are shaped by the conditions of media production. Whether these models are individualised or generalised, they exist in a system of tension between fears of precarity and the utopian possibilities that are embedded in the idea of the player. Here, the vagueness of player images creates a blank slate onto which these hopes and fears can be applied, as much reflecting the forces that create them and generating a more concrete form from which future players can be constructed.

Audience Image and Player Image

Starting most broadly, the "player image" is an image developed by media workers or institutions of a player as person. I am adapting the term from "audience image" which is most often attributed to Herbert Gans. He describes this as "not a unified concept, but a set of numerous impressions, many of which are latent and contradictory. These impressions deal primarily with how people live, and how they look at, and respond to the roles personalities, relationships, institutions, and objects that movies portray" (1957: 316-317).

For Gans, the audience image plays three key roles. First it is an "external observer-judge against which he [the creator] unconsciously tests his product even while he is creating it" (1957: 316). This perception invokes a critical or even adversarial audience, clearly separated from the content creator and potentially existing completely beyond the producer's conscious decision-making. In our interview, Mike Ambinder described their players in this way, but with measured feedback able to convert their external judgments into valuable production decisions, stating, "Our players are the final arbiters. We draw on their feedback to determine whether or not we have a product worth creating" (Ambinder, interview, 2012).

Second, Gans argues that "the audience image... functions to bring the moviemaker in contact with one of his major reference groups" (1957: 317), indicating that this image taps into a creator's existing human relationships that are not necessarily defined by the media in production. Finally, the audience image is the source of a media professional's livelihood, with Gans stating that "[e]very mass-media creator, whatever his skill, is to some degree dependent on the validity of his audience image for his status and standing in the industry" (1957: 322). This indicates the financial and occupational significance of the audience image, while also emphasising the importance of the audience image in relation to other media producers and professional peers.

The terminological shift from "audience image" to "player image" retains these three functions and continues to be defined, at least initially, by individual media workers. These creators largely base their images of players on what they know, be it from experience,

intuition, stereotypes, or their immediate surroundings. And due to medium specificity and the increased personalisation of media and media work, they are much more individualised than the mass conceptions wrapped up in audience images. Despite this, player images, like images of audiences, tend to be shaped by three main reference points close to game developers: their social groups, professional peers, and themselves.

With regard to the first of these, for example, in our interview Brenda Romero spoke about envisioning a very specific person she uses as her base reference point:

> "I also, with social games, have a very specific, literal, real player in mind. There's a friend of mine who is a 40-year-old stay-at-home mom with two [kids], highly educated, super type-A, great woman, and she plays these games, she plays social games, and so I will often mention her by name. I will often say, well, you know Julie Austin wouldn't want to do that, or Julie Austin would think this is interesting" (Romero, interview, 2011).

These standard reference points, held in common with virtually all other mass media, have themselves become rapidly altered by technological and sociocultural changes. Several game developers told me that, at least in part, they based their understandings of their players on information gleaned through social networks like Facebook and Twitter. Romero continued about Julie Austin:

> "I, in social games, actually have the opportunity to watch her [Facebook] Wall, see what she's doing, see what she's playing, and I look for the things that she sends, you know, like gift invites and all that other sort of stuff." (Romero, interview, 2011)

These networks are highly technologised and deterritorialised, offering the potential for developers to increase the breadth of their social groups to previously unimaginable levels, such as *Doom* (1993) creator John Romero's five thousand Facebook "friends." In the case of social game developers, they can even see players interacting with their games and then contact them for feedback instantly and all in one place.

However, beyond even the basic concerns over the “digital divide,” these services have their own individual audience biases and levels of access (such as Facebook's official limitation to people over the age of thirteen). Moreover, these systems embody the increased personalisation of today's media, with much or all activity restricted to “friends” as controlled by developers themselves, as well as complexly merged with their personal identities. This can lead to an insularity in which developers are actually continuing to rely on the same family and friends as they would have prior to the existence of such technologised networks, or just expanding their circle of professional peers rather than including new voices.

Game developers often base their images of their audiences on their knowledge of their professional peers, whom they also see interacting with games and who clearly hold deep knowledge about production, technical, and content conventions. Herbert Gans suggests that filmmakers, “... had little knowledge about the actual audience and rejected feedback from it. Although they had a vague image of the audience, they paid little attention to it; instead they filmed and wrote for their superiors and for themselves, assuming... that what interested them would interest the audience” (1980: 230).

Scholar Ingunn Hagen describes the danger of this type of “single-loop learning,” in which members of an organisation or institution primarily develop their images internally and then recirculate these images within the institution, resulting in insular images that are slow to respond to external factors. This increases the divide between producers and consumers, which can bring about negative attitudes towards audiences now pitted in opposition to both production standards and creator's artistic autonomy (Hagen, 1999: 133).

Hagen suggests that “double-loop learning” deals with this problem by establishing information streams from the external world to promote new perspectives. The example provided is audience measurement systems that contribute to “different kinds of learning horizons” (ibid), yet as I argued in the previous chapter, the mere existence of these measurement systems is not sufficient to infuse new ideas into the game development process. Instead, it requires that these systems be deeply integrated into production workflows, not segmented in marketing and public relations departments as is the case for

many companies. Even when these systems do work in conjunction with one another, it still relies on the assumption that measured information is not continually conceptualised by existing assumptions and standards. However, when deeply implemented "double-loop learning" does offer the possibility for a more diverse picture of the player that is at least not solely defined by entrenched insularity.

Moreover, while media makers hold a deep understanding of the content they produce, their consumption habits are not especially representative of most consumers. Muriel Cantor's research into the television viewing habits of TV producers found that they watched more for "work" than for "entertainment" (such as to know what the competition is up to or to check out new technologies in action). Producers also were much more aware of trade publications and press surrounding their medium than the average viewer, yet reported that they did not watch as much television as most people due to the time constraints of their jobs (1971: 178-180).

While this type of time constraint was expressed among several of the developers with whom I spoke, Design Director Brett Norton argued that the opposite temporal situation can also be the case, but with a similar disconnect between producer and audience consumption. He stated,

> "Developers are usually rampant gamers, like *hardcore*, playing games, working on games, *every day*, ludicrous involvement in gaming... They're specialists, or experts, and your audience is *not* specialists, they're *not* experts. They're often times the casual guys that play for a couple hours, five to ten hours a week, so you're building games for them, versus you who works on games, and plays games, somewhere in like the sixty to seventy hour range maybe, depending on what you do and how much you like to play outside of work. So big audience difference there." (Norton, interview, 2012)

In both cases, these descriptions indicate that media workers are not analogous with many media consumers, and that any audience images based upon them are surely skewed. At the same time, it emphasises that the audience images that do exist are closely linked with the conditions of production. This focus on individual experiences of media and media work leads us to the last main reference point for media workers: themselves.

Philip Schlesinger's claim that for journalists, "Ultimately, the newsman is his own audience" (1978: 134) is closely mirrored in a statement from my interview with game designer Brenda Romero, in which she claimed, "I am first and foremost my audience" (Romero, interview, 2011).

This temporal prioritisation of first designing for oneself was a recurring theme with my interview subjects, such as developer Andrew Smith's claim that his games are typically "aimed at people like myself, initially, and then I try and sort of massage it in one direction or another" (Smith, interview, 2012).

Caspian Prince told me much the same in a more self-deprecating manner, saying

> "I'd start with me, because I don't really know any other in any real detail. I'm not a very good game designer. I'm no good at working out what other people like, so I have to start with myself and hope there's overlap... I couldn't conceive of writing a game I wouldn't enjoy playing" (Prince, interview, 2012).

Even more common are statements similar to this quote from Jay Stuckwisch: "I wouldn't necessarily say we make games for a specific audience. We just make games we think are fun to play" (Stuckwisch, interview, 2011)[1]. Here, the definition of what is "fun to play" is based on the creator's own experience with the game, assuming that what the developer finds fun will be fun for others.

While this may just seem convenient, there are also practical reasons why developers would design for themselves. Brian Hackett of Glasgow's Claymore Games told me that many independent developers design for themselves because they don't have the funding or manpower to perform rigorous audience research, indicating an economic restriction (Hackett, interview, 2012)[2].

---

[1]Jay Stuckwisch is the Marketing Director at Austin, Texas based Twisted Pixel Games, a small development studio that was independent at the time of interview, now owned by Microsoft. The company is known primarily for downloadable titles on Microsoft's digital platforms that feature bizarre humour and high levels of difficulty.

[2]Brian Hackett is one half of Glasgow, Scotland based Claymore Games, an independent developer of mobile and smartphone games.

Dallas Snell focused on worker morale in our conversation, saying:

> "Developers often are best at making the kind of games that they like to play. It's hard for them to often get into making a game they don't like to play themselves, especially the core design group." (Snell, interview, 2011)

As such, his company aims to appeal to both internal and external audiences at the same time, with Snell stating:

> "[t]here happens to be enough overlap between the demographics on Facebook... that we can make a game that appeals to our design group and appeals to a large enough segment of the demographics that we enjoy making it and hopefully they enjoy playing it." (Snell, interview, 2011)

Brett Norton advocated for a type of middle ground, at least for commercial projects, claiming:

> "Part of the problem that the gaming industry, even the motion picture industry, and a lot of creative endeavors have, is that you have the creative interests of the developers and then you have the actual thing that people will consume, and the two don't always line up... My creative passions and what an audience is going to pay for have to be in sync" (Norton, interview, 2012).

While the dual-appeal approach used by Snell's company may certainly be viable, its widespread success is premised on a fairly equitable overlap between audience and production crew. However, historically the games industry has struggled with a development community that is anything but diverse, and that has in turn limited the types of games produced.

This is increasingly problematic as the demographics of people playing games continue to change, especially with the influx of social and mobile gamers. With regard to the most commonly cited mismatch, gender, although games like *Bejeweled Blitz* (2010) draw in a majority female playerbase, the games industry has and continues to be comprised of mostly men (see International Game Developers Association, 2005, web). Even within this

segment, research indicates that women in the games industry are much more likely than men to hold jobs in administrative, marketing, public relations, or human resources departments and less likely to fill core design, programming or other production roles (Prescott and Bogg, 2011; Krotoski, 2004; Haines, 2004). This lack of diversity extends to most other identity categories of game developers, such as ethnicity, age, and disability. Thus, if audience images are being created based on developers themselves, these images are not reflecting the diversity of the potential or actual playerbase, and may even be actively constraining it.

Today's blurring of the lines between production and consumption, as well as work and leisure, has made the relationship between producer and audience even more complex, reifying the position of the producer within the audience image while emphasising the role of experience in understanding audiences. As part of the job, game developers are expected and required to play some amount of games, but the distinction between producer and consumer ultimately comes down to experience.

Satoshi Ito, a Japanese game designer working for Sega, reverses the assumption that developers define players based on themselves, arguing that developers and players actually play differently. In an interview for a prominent games industry news website, he states,

> "It is very important for developers to play games, but they shouldn't be playing too much, and it also depends on their approach when they play... If you play too much, or if you play passively, you become just another customer – just a player. You have to be always thinking critically when you are playing games. You should be thinking about what are the special things that have been done to make this game interesting, what are the designs and concepts behind it, and what are the things they are trying to achieve? These are some of things you should bear in mind when playing games as a developer" (Donovan, 2011: 3).

This paints an extremely unflattering picture of the player, assuming that she or he is not active, thinking critically, or informed about game design and production. However, it does emphasise the role of experience in understanding players. Other designers approach this

focus on experience from another angle, proposing a type of experiential projection in which the creation of a game involves the producer attempting to alter their own experience to simulate that of another. In their textbook for game devleopers, Tracy Fullerton, Christopher Swain and Steven Hoffman claim that "The game designer must look at the world of games through the player's eyes" (2004: 2). Similarly, game designer Jesse Schell's own design book suggests that "you must think hard about people you have known who are in the target demographic, and imagine what it is like to be them...If you can mentally become any type of player, you can greatly expand the audience for your games" (2008: 99).

Schell argues that it is this experience that game designers are actually developing, not games in and of themselves, but that any media creator inevitably runs into the philosophical barrier of being unable to truly access and understand another's experience (2008: 11-17). From my perspective then, it is this divide that the player image is filling, the most personalised image possible, seeking to bridge the experiences of the actual player with those of the game designer. For games as a medium revolving around experience then, the player image functions as far more than simply judge, reference, or value proposition, but as itself as a mediated experience from the perspective of the developer.

Labourers and Playbourers

As indicated in the previous section, during the playermaking process media workers often base their images of players on themselves. This occupational linkage combined with the current transition into a culture defined by convergence has meant that players are increasingly viewed as workers along with the media professionals conceptualising them as such. As described by Media Molecule's Daniel Leaver on the company's podcast during a discussion about player game creations, the idea that "people have a very unique opportunity with *Little Big Planet*, which is that, if they build a good level in LBP, that is precisely what they would do if they were hired here" positions player activities as comparable to the labour done by game workers (Spaff, 2009).

Kline, Dyer-Witheford and de Peuter cite a cynical industry saying, “the customer is the beta-tester,” which positions player as worker, to indicate both that games are increasingly released in unfinished states (now economically legitimised with paid alphas or “early access” funding) as well as the casual workforce that shifts fluidly between serving as player and worker. Moreover, they point to “the marriage of gaming with market research; the 'laboratory' model of interactive entertainment centres; the use of game testers and expert gamers by major manufacturers; the use of shareware and player editing to add value to games; and the role of gaming culture as a training-and-recruitment arena for the industry” as the five main ways that the industry deeply integrates players into labour processes (Kline, Dyer-Witheford and de Peuter, 2003: 202-203).

This construction of players as workers, a process performed by the media workers involved in these systems, results in player images that are reflexive and defined by media workers’ own experiences and identities in doing media work. According to scholar Mark Deuze, these experiences are governed by a “liquid modernity” that increasingly blurs the lines between public and private, global and local, and play and work. This is the same liquidity has caused media work to become increasingly precarious, deterritorialised, and technologised, but at the same time, more personalised (Deuze, 2007).

This personalisation encourages reflexivity, suggesting that any conception of audiences as labourers reflects the deep contradictions in game work today, most notably the divide between the pleasures of creative work and the precarious working conditions that dominate the industry. Within this environment, the games industry is increasingly mobilising the language of work (not creativity) to describe what players are doing, more centrally integrating player labour and content into their own production systems, and shifting seemingly less “fun” labour (like game testing, discussed in further detail in Chapter Nine) to players. At the same time, the industry promotes an image of utopian collaboration, blurring the roles of producer and consumer, and offering radical and unique opportunities for productive user creativity unseen in other media.

Much of the distinction here involves the centrality of identity at the ambiguous boundary between creator and consumer. When based on the personal experiences of game workers,

playermaking invokes a player with a dual identity, both consumer and creator, that structures both game work and game play. These conceptualisations not only reflect the identities of the individual game workers performing this conceptualisation on the micro scale, but the complications of their personal identities *as* game workers. However, this duality runs counter to institutional desires to distinguish producers from consumers for legal, economic and ideological reasons, resulting in a paradoxical retrenchment of systems that differentiate professional from amateur labour. Ultimately, control over when to embrace players as part of the production process and when to define them as consumers is retained by institutional forces, reinscribing these subject positions through economic and sociocultural structures and imperatives as needed.

The blurring line between producers and consumers has been widely analysed in academic literature across media in recent years, reaching back to Alvin Toffler's merging of the two words in "prosumer" (1981) or Axel Bruns' more recent coining of "produsage" (2008). With regard to games in particular, Julian Kücklich opted for "playbour" (2005) to describe the merging of these two positions, while others have chosen instead to view games as "co-creative media" (Morris, 2003), highlighted the potential for "productive play" (Pearce, 2006), situated players as "co-developers," (Jeppeson and Molin, 2003), focused on "participatory design" (Taylor, 2006), or adapted "immaterial labour" from Hardt and Negri (2001) to view this shift in a global economic framework (Arvidsson and Sandvik, 2007; Dyer-Witheford and de Peuter, 2010).

For an industry emphasising competition and constantly attempting to find the cheapest possible workers, player labour is extremely attractive because it is free (or even profitable). This labour pool is also incredibly plentiful, globally situated, pre-trained, and anxious to engage. It is also unconstrained by labour laws and unions, which is notable given the industry's history of anti-union lobbying and outsourcing to less restrictive locations. Finally, this labour integrates smoothly with other dominant audience conceptions, simultaneously serving as marketing devices, sources of player labour, and opportunities for valuable data-mining. Combined, at least on the surface, this vision of player labour is one of the ideal worker from the point of view of the industry.

However, audience conceptualisation is not solely a top-down process, but as will be discussed in detail in later chapters, a negotiation that offers players clear benefits as well. In terms of labour, the most concrete come in the form of rewards, like early access to new products, in-game items, achievements, or less frequently, actual payment through in-game marketplaces. Aside from these, however, the rest of the benefits for players are more abstract. Hector Postigo views this relationship with regard to mod communities as structured by a "moral economy" in dialogue with cultural policies (2008). However, the economic incentives of such player production remain largely within the hands of established institutional stakeholders, one of the clearest indicators of how institutional forces continue to distinguish between professional and player production. While players rarely receive economic payment for their labour (or receive funds drastically lower than industry wages), they do gain what Sarah Thornton (1996) has called "subcultural capital" (or Mia Consavlo's adapted "gaming capital" (2007)) which follows Pierre Bourdieu's (1984) suggestion that skills, knowledge, and social (or subcultural) status have their own cultural values that can be variably converted to economic capital.

This community focus is also encouraged in the more psychological pleasures involved with creation and productivity. David Gauntlett's book *Making is Connecting* (2011) suggests that the social draw of much of this constructive labour is particularly powerful, with games like *LittleBigPlanet* (2008) allowing multiple players to join together to create a level either online or in the same room. Even playtesters gain some sense of community while commiserating over newly discovered bugs on forums. The conception of audiences as labourers also provides a greater sense of engagement with the production process that works in line with the push towards participatory culture. This is a powerfully convincing benefit for players that taps into the utopian desire for greater collaboration and connection, not only between industry and consumer, but between people.

However, it would be a mistake to quickly claim either exploitation or liberation. Tiziana Terranova's concept of free labour is useful here, described as "[s]imultaneously voluntarily given and unwaged, enjoyed and exploited" (2004: 74). David Hesmondhalgh expands on this, cautioning against overuse of the term "exploitation," but reading "free labour" as having a dual-meaning, describing labour that is not only cost-free, but that, he

states, "refers to the way in which labour cannot be fully controlled, because of capital's continuing and problematic reliance on it" (2010: 273). This lack of control includes rebellious creation, with players using provided tools to create content that may not conform to the visions of the tool providers (often political, sexual, or in violation of intellectual property laws), with mods like *Velvet-Strike* (2002) constituting part of what Alexander Galloway has termed "counter-playing" (2006).

Even when the content is appropriate, it may not be any good, indicating the monumental task of ensuring quality labour from players. Games journalist Mitch Krpata argues in his review of the game that the vast majority of user generated levels in the widely celebrated *LittleBigPlanet 2* (2011) are "*terrible*," but more importantly that "To find anything worth playing, you need to navigate to a special section curated by the game's developers, Media Molecule…what does that do to the game's thesis that we are all beautiful snowflakes worth celebrating? It's an admission we need gatekeepers" (2011). There are also issues of maintaining control over proprietary material, as the distribution of tools and content to millions of people around the world opens the door for misuse or piracy. And while player labour can help market games and provide valuable data, they can also do the reverse. For example, giving players access to a game too early in production could lead players to form a bad impression and actually decrease eventual sales. In these types of situations, the games industry prioritises protecting players as consumers rather than as prosumers while encouraging content vetted by company employees, undercutting the transition towards a more liquid relationship.

Ultimately, these two opposing forces compete with each other so that neither ends up really being "free," with the industry continually expending new funds to rein in the rebellious side of player labour. It is yet another indication of the constant struggle over the conditions of this conceptualising process and an acknowledgement of a lingering differentiation between professionally produced, institutionally controlled game content and the more unpredictable, uncontrollable material offered by prosumers.

The industry's approach to managing this struggle has been to increasingly embed this conception of audiences as labourers more centrally in industrial functioning. Historically,

and as studied in academia, player labour has been viewed as relatively peripheral, with activities like modding typically associated with "hacking" rather than with industry sanctioning. Over the past decade, however, this perception has rapidly changed, positioning content produced by users side by side with that of the industry. For example, in *Civilization V* (2010), user mods are listed on the main menu alongside the modes created by the developer, and can be downloaded and played in seconds. In *Starcraft II* (2010), there are even "official" mods created by the developer Blizzard that are distributed right next to content made by users, and multiplayer maps designed by the community are automatically included along with those created by the official design team. Player labour also previously was primarily performed by dedicated gamers, with huge portions of the populace simply not bothering. This is still the case for certain types of labour (like modding), but other types of labour (like playtesting) are increasingly performed by greater numbers and types of players.

In order to accommodate (and encourage) this huge population of potential labourers, all with different skill levels and abilities, there has been a shift towards decreasing the technical requirements to perform player labour. As one example, player advertising has become incredibly streamlined and integrated into games, particularly social games. Zynga's *FarmVille* (2009), along with many other games on Facebook, automatically prompts the user to send invites to other players, simplifying advertising to a single click of the mouse. However, this simplifying tendency in service of broader prosumer adoption implicitly serves to differentiate this labour from the highly technical work performed by industry professionals, further complicating notions of blurring forms of labour.

Finally, as indicated earlier, player labour is centralised through an increased level of industrial control in a variety of forms. The first is technological with the shift towards closed, controlled systems like those of home consoles. The PC has long been the wild west of gaming, but even there has become dominated by Valve's Steam service while social games merge onto controlled platforms like Facebook. Built into all of these systems are technologies to control use, information flow, and access. So for example, a beta taking place on Xbox Live is distributed through their controlled distribution channel, is playable only on that device, is automatically deactivated and made unplayable after the beta period

ends, and is policed by members of the "enforcement team" for improper use which can be remedied instantly. Thus, this supposedly "free" player labour actually requires the employment of dedicated enforcement teams and increased funds for creating and maintaining these highly technical systems.

Beyond technological means, player labour is further controlled through regulation. With regard to information, the most basic device is the NDA (non-disclosure agreement), a business standard that is now regularly encountered by players in order to control the flow of information in a company's intended marketing cycle. This, however, also restricts the ability for this early access to positively generate buzz, as well as being difficult to enforce on a global scale. Similarly, the media industries in general have aggressively mobilised copyright law to protect industrial intellectual property. Yet the industry is still struggling to find a way to effectively police the huge amount of player content for infringement. The industry's standard practice for governing ownership is the use of a EULA (end user license agreement), which has turned virtually all digital products into services that are only licensed from the creators. For example, the Service User Agreement for Nintendo's 3DS handheld includes the following clause:

> "By accepting this Agreement or using a Nintendo 3DS System or the Nintendo 3DS Service, you also grant to Nintendo a worldwide, royalty-free, irrevocable, perpetual, non-exclusive and fully sublicensable license to use, reproduce, modify, adapt, publish, translate, create derivative works from, distribute, perform and display your User Content in whole or in part and to incorporate your User Content in other works, in any form, media or technology now known or later developed, including for promotional or marketing purposes." (Nintendo, 2010: Chapter 1, Article I, web)

Simply by using the system, the player has automatically ceded control of any potential products that he/she creates to Nintendo. As such, in most cases, the fruits of player labour are the property of the industry, not the player who performed the labour, a legal indicator of the ways the industry has resisted the blurring lines between players and producers.

The last main method of industrial control is a dual ideological merging of play and work. The image of "play as work" allows the industry to mobilise the terminology of work to

describe player activity, for example in labelling products as “betas.” This discursive distinction transforms content into incomplete products being shaped by player labour. “Play as work” thus functions to suggest that players are performing equivalent labour to that done by media professionals, as well as invoking the utopian desire for influence over the production process described before.

This is combined with what Kline, Dyer-Witheford, and de Peuter (2003) call the “work as play ethos” that presents media work as a wholly liberated, rebellious, and fun endeavour to encourage both player aspirations of future employment and acceptance of harsh conditions on the part of media workers. Together, these ideological controls continually suggest to players that their role as labourers is providing a type of training for future entirely enjoyable employment, and that by simply playing games, they are learning the skills necessary for a job in the games industry. However, in general highly technical work requirements for industry employment prove such suggestions to be largely illusory.

Regardless of any actual work being done, this section has emphasised that merely constructing players as workers has significant consequences for both actual players and games industry professionals. When game workers conceptualise players as simultaneously consumer and producer entities who are expected to perform substantial labour within the industry, this is a reflection of their own reflexive identities and work experiences in an occupation that is both creative and commercial. While playermaking often involves media workers looking to themselves when trying to develop images of the players they expect to reach with their games, this inward focus is not limited to their experiences in their personal lives, but to the work experience that is such a major part of their identities. The increased precarity, technologisation, deterritorialisation and personalisation of life within today's convergence culture has made separating these aspects of one's identity much more difficult. As such, the player images emerging out of this system are structured by this same inability to adequately separate work from play, except when distinguished by institutional imperatives, with significant implications for the eventual use of these images throughout the production process.

Product Image

While player images are undeniably vague, skewed, reliant on specific conditions of production, and complicated by simulated experience, it is not clear whether or not this is a "problem" for game development. Despite this vagueness, for decades game production (as well as other media production) has functioned at the very least adequately. One way to address this discrepancy is through the idea of the "product image," as proposed by John Ryan and Richard Peterson (1982), which is a more materialist take on the audience image. A product image embeds the idea of the audience into working routines and conventions that are shared across the production chain. The basic idea is that by having a functional image of a product, media workers will implicitly understand their audiences through it.

For example, in our interview, when asked how Valve views their audiences, Mike Ambinder replied,

> "It's not something we typically think about really. It's more like, how can we make the best product possible. It's not building a product for a particular market, it's just building a particular product" (Ambinder, interview, 2012).

Denis McQuail links these first two image types, arguing that

> "media organizations and those who work within them develop certain stereotypes concerning the interests, expectations, and cultural tastes of their regular or intended audiences and seek to match these stereotypes with appropriate content. The aim is to maximize the correspondence between audience image and product image" (1997: 116).

Thus, images of the audience and the product are closely linked, feeding into one another in a reciprocal relationship approaching the same problem, matching person with product, from the two different starting viewpoints.

Philip Schlesinger emphasises the routinisation of media work, stressing that "[p]roduction routines embody assumptions about audiences" (1978: 115-116). The daily work routines of individual workers are both integrated into and based upon standard institutional

practice so that workers need not specifically learn about audiences, but instead merely learn how the job is done. This again reinforces the role of professional relationships, with knowledge of workplace practices transferred from worker to worker in a largely single-loop system.

This extends to the ideological traditions built into occupations, with Schlesinger claiming that "the gap between producer and consumer does not pose severe problems because it is filled with the conventional wisdom of a professionalism which is largely self-sustaining" (1978: 134). Such key tenets of a media job become embedded in routinised production systems, dispersing individual necessity for clear images of either audience or products as long as both are approached within this ideologically structured mode of "professionalism."

For McQuail, this prioritisation of product image over audience image has the potential to widen the gap between creators and consumers, acknowledging that "... For the creative communicator, this [matching audience with product] often means leaving things to publicity managers and planners, who keep more closely in touch with the intended market" (1997: 116).

Indeed, in my interviews, particularly with regard to larger companies, audience research largely occurred in marketing or advertising departments, and this information was not readily shared with the creatives (Gaynor, interview, 2012; Kasavin, interview, 2011). In arrangements involving contract work, the flow of information and player images are often expressed through design and governed by power relations. As Andrew Smith described to me, when production partners appear to "have an incredibly solid idea of what their target market is going to be... they feed that to you, rather than through numbers and whatnot, they'll do it via changes they request in the game" (Smith, interview, 2012).

Here the flow of information and development control are both largely unidirectional, as in Brian Hackett's claim that "the company you're contracting for tells you what to do, so you don't really have a lot of say in the design." Even when describing a scenario involving a company "who had absolutely no games background at all, so they relied on us to tell them

basically what makes a game and how to... keep people playing and so forth," this one-way flow of information persisted as the company "ended up ignoring a lot of what we told them" (Hackett, interview, 2012).

Similarly, according to Smith, when design requirements are conveyed to contractors, "some of the better clients and partners will explain why, others won't" (Smith, interview, 2012). Conceptions of audiences, then, generally are not openly or directly shared and described, but rather are transferred within design decisions between partners whose communications are governed by the power relations and economic motivations underlying their interactions.

When information was shared, it was often met with hostility, seen as marketing interfering with creativity rather than collaborating with or informing it. Moreover, the organisation of the games industry (as described in chapter two) means that for many developers, this research is often primarily performed by their publishing partners, who have marketing departments and budgets, yet are completely separate companies with no or little impact on a game's core development. Even within vertically integrated conglomerates, there is often a physical separation between research or marketing departments and core game design and production, either in terms of workplace layout or the establishment of specifically-focused studios or research subsidiaries. These issues are not constrained to the creation of digital games, but complications that guide the production of all types of media (e.g. Hesmondalgh and Baker, 2011).

Ultimately, this general subjugation of audience conception to the supremacy of the product only deepens routinisation by lubricating agreement throughout the development chain and reifying professional knowledge of production standards and tropes over understanding of audiences themselves (Ryan and Peterson, 1982: 24-25). Moreover, it simultaneously broadens conceptions of players, as they are now established with all members of the production chain in mind, while narrowing the stakeholders responsible for their construction to those in positions of economic privilege. In all cases, it recasts the audience in explicitly materialist terms, infusing the concept of the player with all the other aspects of a product and placing them on equal terms.

Platform Image

For the digital games medium, I argue that this situation has given way to a specific form of the product image: the "platform image." As described in chapter two, platforms include both the hardware and software systems upon which digital games can be played. In both variations, individual platforms each have unique features and limitations, and thus develop their own identities. This has led game developers to construct shorthand assumptions about the audiences for each platform despite the wide variety of both games and players that exist on every platform. In the same way that product images offer a relatively consistent assumed image for how to develop a specific type of product that is shared amongst workers and conventionalised by institutions, platform images provide a set of implicitly agreed-upon, industry-wide assumptions about audiences based on game platforms.

The platform image embeds audiences into a hardware or software platform, offering a set of audience stereotypes as linked to specific technologies. This is similar to the linkage between audience and television channel, as well as the idea of genres dictating audiences. One interviewee explicitly linked genre and platform, arguing that platforms determine what genres of games are made for them and therefore, what audiences are attracted to them (Anonymous A, interview).

As such, nearly all of the developers I spoke with mentioned platform as a crucial way of understanding their audience. Brenda Romero claimed that when beginning a project, "we already know who our audience is...the audience comes to the platform" (Romero, interview, 2011). Dallas Snell agreed, saying,

> "Each one of those platforms attract a certain kind of audience and if you're going to make a game on that platform, that platform dictates. Or if you want to make a particular game for a particular demographic you then look for the platform that supports that." (Snell, interview, 2012)

While massive quantities of information are available regarding the audiences of specific game platforms, this type of "platform image" is often less focused on actual measurement

and instead based on the common industry-wide assumptions and agreements about the audience for a platform.

When I asked how she knows who comprises a platform's audience, Romero's thoughtful response acknowledged this complication by starting with “well everybody knows,” then shifting to “well not everybody knows,” then finally leading into a discussion of widely available reports. However, it seems clear that this industry-sanctioned oscillation between and conflation of “everyone knowing” and “nobody knowing” is definitive of the platform image, as suggested by Schlesinger earlier and Romero's follow-up that negates any turn towards scientific reports:

> Question: “So do you read those kinds of reports regularly?”
>
> Romero: “No. If I read a report right now that told me suddenly the market is shifted to 17-year-old guys it doesn’t mean I’m just suddenly going to change this game to target 17 year old guys.” (Romero, interview, 2011)

Along these lines, reliance on platform images is even further complicated by the relative secrecy of much proprietary data concerning hardware platforms. Thus, despite another social game developer suggesting that his information about audiences was almost “entirely” based on industry reports, he relied almost solely on publicly available reports or services like AppData, an information provider also used by Romero and others interviewed (Anonymous A, interview).

Almost none of the developers interviewed for this project indicated that they had access to substantial demographic information. When asked whether his company had access to demographic data, independent developer Brian Hackett simply stated, “No, not at all... Countries, we do have that” (Hackett, interview, 2012).

Andrew Smith claimed that demographic data could be “the most instantly useful, but it's like the biggest hole I would think that I have in... the way that I can study the effects of my games.” He suggests that part of the problem is that this type of data is “the hardest to track,” but more significantly, that “a lot of the terms and conditions... of particularly third-

party markets like the [Apple] App Store and Google Play... there's a layer between you and that information" (Smith, interview, 2012).

Similarly, Greg Kasavin's small independent development team found platform to be "the single most important thing" in understanding a game's audience. However, when trying to find out more about the actual players associated with his game's platform (Xbox Live Arcade), the information he relied upon was largely "anecdotal" or deduced from the limited publicly available data (Kasavin, interview, 2011).

Here personal and professional connections, as well as the sharing nature of the independent development community, were key windows into potential audience information concerning a platform rather than information coming from the platform itself. This reinforces the role of professional peers in determining a player image, as well as the production routines defined by other "indie" developers who had succeeded at creating and selling relatively similar games in the past. Here, the personal experiences and anecdotes of friends or colleagues play a major role in decision making regarding perceived players and the production choices that should be made to engage these players.

However, it also indicates some of the problems associated with basing audience images on platforms. First is a homogenisation of a diverse actual audience into an image defined primarily by a platform's dominant audience segment. The notion that platforms dictate genres and therefore audiences becomes self-fulfilling as this logic spreads amongst like-minded developers who then continue making the same genre of product, deepening the visible evidence for the initial linkage. And, at least in terms of hardware, because this is embedded in a physical device that will exist for several years, these homogenised images are likewise much more likely to become entrenched in gaming and production cultures.

Second, as indicated by Kasavin's experiences, this association of audiences with platforms concentrates control over these images with the platform holders, who are typically large corporations like Sony and Microsoft. These companies control access to these platforms as well as the flow of information about audiences that emerge out of them. Platform holders often discourage or restrict companies from releasing sales data from their own

games so that it can be filtered and released according to the platform holder's own public relations imperatives (e.g. Hill-Whittall, 2011, blog post).

The industry's dominant American market sales data provider, NPD, has also continually reduced the amount of public information it releases, now only offering in-house curated analysis and figures, while allowing subscribing companies to release information about their own products as spun by marketing and public relations. This only becomes more problematic as game developers continue to rely upon and circulate images based upon these same publicly available reports, potentially exaggerating the findings of individual pieces of information and research over others based solely on which are more readily available.

Finally, this gives platform holders a disproportionate amount of influence in defining audiences images as they are responsible for the shape these platforms initially take. This veers into technological determinism, with the limitations and opportunities created by hardware and software platforms seen as crucial in structuring audiences, rather than viewing platforms and technologies generally as responsive to existing audience demand or desire. The rise of the platform image, then, is a recognition of just how technologised the audience image for games has become.

While I have argued here that player, product, and platform images are all undeniably vague and unrepresentative of actual players, there is no doubt that they play a significant role in the production process. Herbert Gans for example, describes film production in its entirety as “a struggle between creators with various audience images,” whether expressed specifically in terms of audiences or as disputes over production routines informed by audiences, and all occurring within a hierarchical production structure (Gans, 1957: 322).

Digital game production, then, is ultimately a system of contestation between workers with various images of players, products, and platforms. These images emerge out of both the personal and professional contexts of game production, with creators looking to their social surroundings, professional peers, and personal experience to create player images. The professional context becomes even more prominent with the product and platform images,

in which the routines, traditions, and ideologies of the workplace guide the creation, circulation, and persistence of ideas about players as embedded in material structures. This focus on the product increases the usefulness of these images for the entirety of the production chain, but deepens the divide between producer and consumer that sits counter to trends towards media convergence, reinforcing institutional control over when and how to distinguish between the two. In all cases, these images are increasingly technologised, deterritorialised, and personalised in ways that complicate but do not necessarily replace existing modes of image creation.

As we move beyond the individual worker and into the conflicts between workers, these images begin to consolidate into player models that reach far beyond discrete products to inform the functioning of entire organisations and institutions. Yet based on such uncertain images, these models similarly reflect the chaotic and precarious attempts to envision the audience around which media production revolves.

Player Models

Once developers have established basic images of their players as related to specific situations, they are infused into broader ideological models in order to maximise their institutional effectiveness and guide production invisibly through a type of Gramscian "common sense" (Gramsci, 1971). This section argues that even when player images are translated into broader psychological, behavioural, and demographically-infused models, they retain the vague, chaotic, and precarious aspects of the player images on which they are built.

More generalised player models offer an expansive view of players, but in doing so expose even more clearly the tensions at stake in the conditions of game production. Here the vagueness of player images gives way to a Jamesonian dialectical relationship between masses and individuals, and rational and irrational views of players (Jameson, 1990). These tensions simultaneously reflect the hopes and fears guiding game development, with the player positioned as a threatening contribution to precarity as well as a potential source of innovation and unbounded creativity.

Digital game scholar Jonas Heide Smith identifies four general models revolving around player behaviour that describe players as Susceptible, Selective, Active, or Rational. The Susceptible Player Model is largely aligned with media effects scholarship in that it "implies that the player's post-game behaviour is predictably influenced by features of a game played" (Smith, 2006: 25). An exemplar of this model is Anderson, Gentile, and Buckley's General Aggression Model (2007). The Selective Player Model suggests that players select games to play based on pre-formed needs, thus aligning it with traditional media's uses and gratifications framework (Smith, 2006: 28). The Active Player Model is indebted to cultural studies traditions, privileging engagement, interpretation, resistance and creativity (Smith, 2006: 30-33). A common version of this is the somewhat misnamed Bartle Test that classifies individual game players as some combination of the aspects of Achievers, Explorers, Socializers, and Killers, which are particularly applicable in Bartle's focus on virtual worlds focused on player choice (Bartle, 2004: 128-148).

Finally, the Rational Player Model, which forms the focus of the remainder of Smith's dissertation, views players as "a logical or rational individual whose main (or only) concern is to optimize his or her chances of achieving the goals [of a game]." This conception of players allows game designers to focus on rules and player behaviour in relation to producer-defined goals, but ultimately relies upon assumptions that many designers feel are "so self-evident that they feel no need to mention them explicitly" (Smith, 2006: 34-36). Smith places Fullerton, Swain, and Hoffman into this category, who would, I suggest, offer an instrumentalisation of players as "formal elements" in the game design process. Here, the important questions about players are simply, "How many players does the game require? How many total players can the game support? Do various players have different roles? Will they compete, cooperate, or both?" (2004: 43) As such, players exist only in relation to their use within the system, with the game structured around entirely abstracted conceptions.

On the other end of the spectrum are the behaviour-based analytics solutions described by Chris Wright that segments groups of players based on their actions with regard to the tri-pronged metrics goals of acquisition, engagement, and retention. These groups fall into a large range of behaviour-centric categories such as "Early Enthusiast," "Confident

Completers," "Sporadic Semi-Engaged," "Losing Momentum," or "Need Guidance" that acknowledge that games aren't made for homogeneous masses, and as such can't be seen to have *an* audience, but *many* audiences attached a single product (2011: 17, web). However, this construction still presumes that the behaviours tracked by analytics systems are made by rational beings with specific intentions which can later be analysed and interpreted in relation to the developer's product goals.

Olli Sotamaa's (2007) overview of player models in commonly used game design texts is even more directly relevant in that it focuses on game designers specifically expressing their images of players in the design process. Sotamaa identifies three main images of the player that emerge from this literature: the Ideal Player, Player Profiles (defined by market segments or through play styles), and Players as Co-Creators. The first of these categories focuses on motivations, to some degree encompassing the Rational Player Model from Heide Smith in the form of cognitive science and including any images of players guided by their wants, desires, or fears. Marc Leblanc's "Taxonomy of Game Pleasures" slightly shifts the focus of this category from anticipated motivations to resultant pleasures, but retains the goal of attempting to determine *why* people play to guide game design rather than *what* people do when they end up playing (see Schell, 2008: 109-110; Costikyan, 2002: 26-30).

This focus on motivations gives way to the segmentation of players into groups or profiles, either as market demographics or by behaviour. For the former, Sotamaa invokes the common industry terms "hardcore" and "casual," which I have investigated elsewhere in detail (Boyer, 2009), providing a concise example of institutional logic that nearly invisibly guides conceptions of audiences across sectors. As an indication of the continued strength of this discourse, nearly every developer interviewed for this project brought up these terms, with many assuming that no definition was needed. Moreover, the age and gender implications of these terms, built in and commonly known, undermine Ettema and Whitney's suggestion that demographic information diminishes in importance when moving away from individual workers' conceptions of audiences and transitioning into institutional strategies.

The other type of player profile, based on play styles, is common in the canonised game studies literature and largely defines players "by their relation to the rules of the game" (Sotamaa, 2007: 460). This approach is fairly flexible, allowing for a consideration of motivations, demographic markers, or a disavowal of them all in a reversion towards the ideal player. Finally, Sotamaa notes that players are often envisioned as co-creators in their play of the game, an issue that I will mention here, but which is discussed at greater length in the following chapters.

These two surveys of perceptions of players within game studies indicate that player images continue to play a significant role in the development of digital games. Certainly, Sotamaa's review of design literature confirms that developers are grappling with the issue and, while perhaps unable to fully articulate what this image constitutes, continue to return to powerful ideas like motivation, behaviour, and demographics in ways both unique to games and as borrowed from traditional approaches to other media. However, no clear unified image emerges from these studies and, even more significantly, much of this information has to be carefully extracted from designers rather than found up front. Indeed, for all the rhetoric about how central players are to medium and the production process, if anything these studies indicate a distinct lack of coherent information to follow up this assertion.

Moreover, these player models reflect the conditions of game production and an instrumentalised view of the player. The emphasis placed on behaviours, rationality, and players as defined by game rules or systems all serve to create players as constituted within the wider framework of game creation. They foreground aspects of game players that are useful to and controllable by game developers in the production process while marginalising any potential player characteristics that fall beyond these industrial discursive confines.

Media-Based Player Models

While the models just described are specific to digital games, certainly models of players share much in common with those of other media audiences. Webster and Phalen (1994) offer three models of media audiences seen in the realm of communication policy: the effects model, the marketplace model, and the commodity model. In the first, the audience is largely passive and often victimised, bearing much in common to Smith's Susceptible Player Model. The marketplace model views audiences primarily as consumers, positing audience members as "rational, well-informed individuals who will act in their own self-interest" (1994:27). This model offers a purely economic take on the audience, arguing that audience activities within the marketplace ought to govern what types of media are created, leading to deregulation and a valorisation of audience "choice." Finally, the commodity model constructs audiences as a "coin of exchange," recognising that beyond their marketplace choices, "[a]udiences have an economic value that is expressed in measurements of their size and composition" (1994: 30). Webster and Phalen position this model as closely wedded to the dominance of advertising from broadcasting (especially in the US context), complicating its adaptation to a digital games medium that is not reliant on advertising.

Of particular note here is that while the "rational" view of players from Heide Smith is largely framed in terms of game design, here Webster and Phalen link rationality with predictable consumer behaviour. While this is certainly not the only way to frame rationality, it does indicate what is conspicuously absent in Heide Smith's discussion: the commercial imperatives of those constructing players. Likewise, the increasing trend towards precise user measurement in games, while certainly used for design purposes, is much more often in pursuit of players as a "coin of exchange," with the goal to maximise profits.

Expanding on the translatable value of audiences, digital game players share much with the conceptions of new media audiences as sources and influencers of data, or as "end users" (Pfaffenberger, 1990; Panko, 1988). Here, media users are embedded into the very structures guiding media with productive, analytical, and manipulable informational

dimensions. P. David Marshall claims that this type of new media induces as "user-subjectivity" in which individuals are not only called upon to assist in the production of media, but are fundamentally constructed as producers of their own cultural experiences, with media structures emerging to facilitate this user-centred production of culture (2009). Just as in Ettema and Whitney's focus on audiences as relationships, for Pfaffenberger, "[i]nformation is always a relationship of some sort, specifically, a social relation," (1990: 55) pointing towards the more general tendency in new media to subsume everything within digital information, including audiences and players. Furthermore, this depiction of audiences or players as data is becoming increasingly central with the rise of the sophisticated measurement systems described in the previous chapter.

Finally, while the games industry tends to construct players in an individualistic fashion, when viewed as masses they maintain many of the traditional tensions of mass media audiences. Once again, rationality is a central component of these conceptions, with mass gaming audiences depicted as either the holy grail of "collective intelligence" or as a swarm of uncontrollable deviants (e.g. IG.Ratana, 2012, audio podcast). From the viewpoint of the games industry, these two models of the mass gaming audience indicate the conjoined hopes and fears of the medium, here framed in terms of the impact of the audience on the future of the industry as a whole and on individual workers.

The constructed game player thus fills a similar position to media content in Fredric Jameson's dialectical reading of media, wherein "works of mass culture cannot be ideological without at one and the same time being implicitly or explicitly Utopian as well," in a system in which "anxiety and hope are two faces of the same collective consciousness" (Jameson, 1990: 39-40). For games, these hopes and fears are compounded by the associated anxieties over and opportunities enabled by new technologies that lie at the heart of the games industry, as well as the changing relationships these technologies offer to users and producers of the medium for both democratisation and institutional control.

Conclusion

As I have argued here, the creation of images and models of game players shares much in common with this construction in other media formats. The shape of player, product, and platform images all crucially rely upon the conditions of production: the first is built upon the social, professional, and personal relationships of game creators, the second taking a more materialist approach to player images to embed them into products and production routines for use across the production chain, and the third associating players with specific hardware and software platforms to enable audience understanding through technical competency and shared, stabilised institutional assumptions.

Models of game players build upon these images to further expand their usage beyond the production chain, but in doing so expose the institutional logic guiding their construction. These models rely on behavioural, psychological and demographic depictions of audiences while grappling with the issue of rationality. This is crucial to positing a controllable and comprehensible playerbase capable of making informed decisions in the marketplace but, when accumulated into a mass audience, threatening to spiral out of control. Thus, these massed player groups are a source of both hope and anxiety, capable of revolutionising the medium for the better, but with the potential side effect of displacing existing workers or disrupting entrenched business models and methods.

In all cases, the images and models of players that circulate throughout and underpin the functioning of the digital games industry are most prominently characterised by uncertainty. The vagueness and ambiguity of images of players, products, and platforms is continued into player models only to be filled with more indications of the institutional, technological, and sociocultural precarity that so dominate the digital games industry and twenty-first century life. These images and models are an attempt to navigate this precarity by concretising assumptions within institutional structures and procedures, yet ultimately end up continuing to reflect the tensions and anxieties that shape these constructions. The next chapter will expand on these ideas to look at how this uncertainty plays out on both the global and national scales to emphasis the roles of industrial and sociocultural contexts in forming the images necessary for digital game development.

Chapter 7
National Playermaking:
Comparing the UK and the US Contexts

Introduction

Playermaking is an institutional process structured by the industrial organisational context and the sociocultural contexts surrounding individual workers. While the focus thus far has been on identifying how this process unfolds across the global industry, these contexts vary across international, national, regional and local lines. This chapter compares two national contexts within which playermaking occurs, the United States and the United Kingdom, in order to unpack some of the ways that this institutional process varies even within a highly globalised digital games industry.

I look at three areas of comparison: the historical/industrial framework, media policy, and the concept of a national audience. The first investigates how the historical development and current shape of the industries in these two countries differs, and what impact these differences have on playermaking at the industrial-organisational level. The second focuses on how national approaches to media and cultural policy have contributed to the shape of each nation's games industry and what influence these have on how players are conceptualised within these national industries. Finally, I examine the possibility of isolating a "national" audience in a globalised digital games industry to determine how nationality plays into developers' notions of their players.

Other previously discussed elements of playermaking, such as the emphasis on the developer's own engagement with the game, are more visible and central to the conception of audiences, as in Caspian Prince's response to my question about national audiences that: "We're still just, you know, making games we like. I happen to be British" (Prince, interview, 2012). Similarly, Steve Gaynor told me that the authenticity of the content was the primary concern, stating, "I don't think we're really going to tailor any of the actual

content or the way that we make the game to any specific culture, or to try to make it any different than it would be if we were only making it for ourselves" (Gaynor, interview, 2012).

However, I argue that national differences play a significant role in determining how the playermaking process occurs in disparate settings, yet these differences are not entirely isolated. Instead, they are heavily embedded within the highly networked global digital games industry, as industrial formations in one country impact on those in another, but with effects occurring unequally. The physical locations of hardware and software production influence the circulation of dominant player images in different regions, as structured by the power relations governing institutional stakeholders across the production network.

With regard to audiences, national differences are largely disavowed by the industry in favour of idealistic visions of global consumers. These differences are taken into consideration within the policy realm, but industrial shifts and regulatory imperatives increasingly allow for and encourage the dissemination of games well beyond national borders and an emphasis on economic rather than cultural policies. Ultimately I argue that in all three aspects, while national differences impact upon the way the playermaking process unfolds, the national consumer is largely disavowed in favour of the overarching logic of capital that positions the player as an entity of the market.

National Industrial Contexts and Complexes

The digital games industry today is highly globalised, driven largely by multinational media conglomerates with the industries of individual nations closely interwoven in a planetary web of game production. In this system, all nations and national industries are not created equal, with products, information, people and culture traversing national boundaries in complex asymmetrical flows. In this section, I look at the histories and current shapes of the games industries in the US and the UK to determine what influence these national contexts have on the playermaking process in each country. I investigate how hardware production and software development occur within these two nations in

order to fit them into the broader network of the global games industry and make a more general argument about national, regional, and local contexts for playermaking.

As discussed in chapter two, the digital games industry is merely one element in a global media production network that operates across media, national boundaries, and cultural specificities. Moreover, the flows of information and products throughout this network embodies the power relations governing media production today. While the focus thus far has been on the way playermaking occurs across large swaths of the "military entertainment complex" (Kline, Dyer-Witheford and de Peuter, 2003; Wark, 2007), this chapter endeavours to break down the ways geographical specificities operate within this complex system.

While it may not be desirable, or possible, to isolate a national industry in today's globalised production networks, these systems are not structured homogeneously, instead functioning in unequal fashion across local, regional, and national boundaries. This is due to industrial, sociocultural, and historical contexts that vary from location to location, but always exerting a structuring influence on the shape of an emerging industry. Here, I look to how both digital game hardware and software production both fit into the broader global network as well as reflect national specificities.

Hardware Production

Using the "global production network" approach, Jennifer Johns focuses on value, power, and embeddedness in the console digital games industry as a way to "bridge the gap between current work on regional development...and work on inter-firm networks" (2006: 153). Johns downplays the impact of national location in hardware production by noting that though "this issue of territory may not have a particularly significant impact upon the production of games hardware, it does have an effect on the organisation and geographies of software production" (2006: 163). However, I argue the geographical location of both hardware manufacturing and corporate presence of platform holders does significantly impact on the playermaking process, particularly as it relates to the "platform image," mentioned in chapter six as one of the most significant and common ways game developers

make assumptions about players. Johns notes that “the sale of hardware reflects cultural biases as there is a tendency for consoles to sell best in their home regions” (2006: 173), which deepens the link between hardware platform, nation, and audience. For developers who make assumptions about their audiences based on their choice of platform, then, these platform images inherently contain a national component.

A system like the Xbox 360, which is produced in the United States and dominant in the US market, thus includes embedded stereotypes about the North American player in notions of this platform's audience. These stereotypes are largely obscured by their implicit inclusion, but become visible in a variety of ways, such as to what type of content players are expected to be receptive (like that leading to global criticisms of gratuitous violence in American produced games). This is more obvious in the availability of certain services, which are made available either exclusively or first in the US, yet promoted as significant components of the platform as a whole (e.g. the trumpeting of Netflix's dominance of digital game console usage when that service only expanded outside of the US in 2010, is scarcely available in the eastern hemisphere, and has met with variable rates of adoption in different territories).

More broadly, both Microsoft's Xbox Live and Sony's PlayStation Network are only available in certain countries, and thus conceptions of players from other nations exclude the possibility that they play online and the players from countries where the services are available become much more readily associated with their use. Likewise, a hardware component like the Xbox 360 Kinect relies upon voice commands for much of its functionality, but only certain languages are supported with the initial roll-out occurring by country rather than language (for example, “Mexican” Spanish was supported prior to the version of the language spoken in Spain). This issue also has a regional element, as various dialects and accents have proved problematic for both Kinect and Apple's Siri even just within the English language (e.g. Chu, 2012). The default assumption in these and other cases is an American player, with people from other countries only supported down the line as this becomes a financially advantageous solution.

Because the UK does not contain a major hardware manufacturer within its national borders, platform images constructed by British developers rely on a more distantly imagined and imported notion of the player. While the American player automatically gains a privileged position in platform images involving the Xbox 360 based merely on the location of the corporate headquarters, British players (along with the vast majority of the world's game players who live in non-hardware producing regions) are marginalised in these platform associations. In this way, the geographies of hardware production clearly play a role in defining the platform image and impact on a significant component of playermaking.

With regard to hardware, Johns argues that its production is a thoroughly global process, largely due to global component sourcing and assembly labour that typically involves interactions between first-world multinational corporations and third-world manufacturing. Each console manufacturer is "organizationally sensitive to the diversity of local environments across which they operate" and "adopts a different organizational strategy based upon divergent corporate histories and cultures" (2006: 160). So for example, Microsoft, a US-based corporation, utilises North American suppliers and assemblers much more heavily than the Asia-based Sony and Nintendo, which makes Microsoft's sales to North American markets much more cost-effective and has contributed to the company's continental dominance over its competitors.

Second, Johns claims that technological specifications between regions (e.g. PAL vs. NTSC) has meant different products need to be produced for different parts of the world, resulting in "three distinct supra-regional sections" of the digital games industry located in North America, Europe, and Asia-Pacific (2006: 162-163). On a general level, the relationship between nation and region has many dimensions, but within this context it largely one of a single nation holding a privileged position within each supra-regional section. Historically, these have corresponded to the nations that have represented each region's largest market and hub of development. However, these two features are becoming increasingly decoupled within supra-regional sections, with the UK retaining the largest consumer base in Europe but losing ground in development presence, the rise of enormous digital game markets in South Korea and China dispersing regional attention away from

Japan, and the increased levels of outsourcing from the US to Canada destabilising the North American region.

Of note here is that whereas both the North American and Asia-Pacific regions are home to the major platform holders (Microsoft and Apple for the former, Nintendo and Sony for the latter), the European region does not have this advantage. Because of this lack, the vast majority of component sourcing and assembly manufacturing occurs outside of European territories, indicating the unequal flow of hardware production resources in the games industry.

This inequality of global hardware production indicates a major point of divergence between the UK and US industries today, which is that the former does not house any major hardware manufacturers while the latter is home to both console giant Microsoft and mobile leader Apple. Historically this was not always the case, as the UK's games industry came to prominence in the 1980s with indigenous hardware manufacturing, most notably the ZX80 and ZX Spectrum home computers made by Sinclair Research and the BBC Micro produced by Acorn Computers, with both companies based in Cambridge. The popularity of the Sega Master System in the latter part of the decade signalled the rise of foreign consoles in the UK, which only intensified with Sony's arrival in the 1990s. In the time since, consoles by Sega, Sony, and Microsoft have dominated the UK's market, yet the nation's history has meant an especially robust tradition of game playing on personal computers that continues today.

In the current shift towards flexible, low-cost, and mobile forms of gaming hardware, a number of attempts have been made to revitalise hardware production within the UK. The crowdfunded GameStick console was designed by London firm PlayJam to resemble a USB memory stick, which is a low-cost Android-based device attempting to capitalise on mobile and tablet gaming momentum by bringing these games cheaply, easily and flexibly onto television screens (see Kickstarter, 2013b, web).

Likewise, the stripped-down US $25/$35 Raspberry Pi computer developed by a charitable organisation hoping to reinvigorate enthusiasm for programming in the UK has, in its first

year, transferred nearly all of its production from Sony factories in China to one in Wales while selling over a million units. The company's Global Head, Claire Doyle, described the shift ideologically, telling journalists, “We believe that a UK creation should be produced in its home country” (Lomas, 2013). The company's Head of Communications further explained the benefits, claiming that “There's no language or cultural barrier” with the Welsh factory as opposed to that in China, and that “we take enormous pride in being able to silkscreen 'Made in the UK' on our little computer.” At the same time the transition was not without an economic component, as “The Sony factory [in Wales] can make Raspberry Pis at the same cost as the Chinese factory we started out with” (Upton, 2013).

This attempted revitalisation of hardware production within the UK in many ways seeks to impact on the unequal power relations that are currently leeching money and control over player images out of the UK and into the existing zones of hardware concentration. While both the Raspberry Pi and GameStick are low cost, relatively open platforms that reinforce the UK's transition into an independent, flexible and mobile orientated production nation, they almost certainly will have little impact on the more dominant player images associated with the major hardware platforms produced in other countries and which have a widespread presence in the UK. However, their potential success holds the opportunity to provide a more concise image of the British player via the player images associated with this domestic hardware. Moreover, it offers one avenue towards altering the nation's position within the globalised institutional system of power relations. Given that platform is one of the most important factors in how developers conceptualise their audiences, regardless of scale the location of hardware production certainly reflects and embeds a national component.

Software Production

National and regional differences are also present in software production, which is where the playermaking process is centred with regard to individual games. Following the “global production network” approach, Johns claims that issues of value, power relations, and embeddedness have led to software production to also concentrate in the same supra-regional sections rather than being a truly global endeavour, with significant implications

for the industry as a whole and for the playermaking process that occurs within these organisational bounds.

In terms of playermaking, here I argue that the location of software production and the power relations governing where this production takes place, impact on the type of players constructed. As industrial changes shift the unequal distribution of power between institutional stakeholders around the globe, players are increasingly taking on new roles that influence these power relations, such as in justifying studio reputation. However, ultimately the neoliberal logic structuring this global network of industrial stakeholders has shifted both production and with it power over the playermaking process into zones of economic wealth, and in the process reified a conception of players primarily based on their position in the market.

While Johns' analysis continues to be applicable today, much has changed since the article's publication in 2006. Johns focuses solely on console games, which have seen a nearly an entire generation of platforms in the time since publication, while the strength of the PC platform (intensified by the launch of the Steam platform in 2003) and shifts in handheld, social, and mobile gaming have all precipitated major changes in the organisation and structure of the digital games industry as a whole, indicating the need to reevaluate Johns' arguments.

However, the concepts Johns uses to define these networks are still particularly relevant to discussions of software production networks today. She emphasises the centrality of value capture and power relations in shaping the geographies of the digital games industry, described as constant struggle between institutional stakeholders vying for the biggest chunk of the consumer dollar. Ultimately, “[h]ow particular firms are able to manipulate the production network to increase their percentage of revenue is a function of their positionality within the network, and an outcome of the power negotiations between themselves and other actors” (2006: 166).

These network positions are in constant flux as the power dynamics between console manufacturers, publishers, developers, distributors, and retailers undergo drastic changes.

Hardware producers traditionally relied on physical production as a source of control, but are seeing increasing shifts away from disc-based media and towards digital content. This digital content can be distributed digitally, transferring the typically large chunk of revenues gathered by retailers from brick and mortar to digital distribution services. In the publisher-developer relationship, publishers typically accept more financial risk in favour of greater control over potential revenues while the developers are less capable of capturing value from their games but do not have to take as much risk up front.

These different stakeholders contesting the capture of value from game revenues also have a geographic dimension, with this globalised industry involving coordination between different industry sectors and, in turn, the flow of money, across national borders. Viewed historically, the UK and the US have quite different industrial organisational structures. The common refrain is that the UK was largely “an unstructured cottage industry” up through the 1980s (Donovan, 2010: 121). By this point, however, the collapse of local hardware manufacturers and the increasing influence of external competition firmly established the UK as a developer-centric nation, but lacking in global platform holders and publishers.

A key turning point is the arrival of Sony in the 1990s with its purchase of UK developer Psygnosis, setting off a long trend of acquisitions of British development studios by multinational corporations in order to take advantage of local talent and exploit the country's unique position within the European ecosystem (see Johns 2006: 167). The Psygnosis acquisition in 1993 was a strategic move by the international hardware manufacturer to gain a foothold in the UK in the lead up to the release of the PlayStation console in 1995. Global game publishers took a similar approach, with virtually every publisher acquiring at least one UK development studio during the 1990s and early 2000s.

However, more recent changes in the dynamics of game production and financing within the industry have resulted in a deconsolidation of UK development studios and an exodus of multinational corporate publishers and platform holders from Britain. Jennifer Johns claims that within industrial power relations, while developers are in a precarious position as opposed to publishers' ability to exert power and control via funding, their own power is

heavily reliant on reputation (of studio and personnel) and the “temporal position of negotiations within the broader cycle of the console market” (2006: 169). The latter of these, while suggesting that developers have more room to negotiate when their services are in high demand by publishers and platform holders, is entirely outside of the control of developers.

Instead, the launches of new consoles, for example, is determined by the platform holders themselves, meaning that they have already anticipated and factored into their plans greater spending on development costs than at other times in the hardware cycle. That said, the necessity to appease and financially support software development during this cyclical phase historically has offered developers more influence and control over their own operations for a specific period of time. This is not guaranteed, however, as Electronic Arts directly linked the announcement of Sony's PlayStation 4 console with broad studio layoffs, with executives publicly defending their firing decisions by claiming that “[c]onsole transitions are a complex and challenging experience” (Gibeau, 2013, blog post) and “streamlining our operations will help ensure EA is bringing the best next-generation games to players around the world” (Graft, 2013).

Developer reputation has also become increasingly complex and decoupled from national standing. In terms of individuals, the medium has always struggled to effectively represent the contributions of individual workers on highly collaborative projects. While a select few industry “superstars” or developer celebrities have emerged, the ballooning size of development teams has meant that even if there is an identifiable “name” attached to a game this person is now standing in for an even greater number of fellow collaborators than before. The exception to this is small independent developers, where each contributor's input is more readily apparent, content is frequently depicted as highly personal, developers often serve as their own public relations departments, and are more transparent about their development process. This has meant that simultaneously recognisable independent developers have gained a more privileged position within institutional power relations than the individual workers on larger corporate projects.

For larger companies, reputation largely rests on specific creative leaders or is attached to the studio itself, with individuals assumed to be variable and mobile. Studio reputation is a turbulent force though, easily thwarted with one poorly performing product, which could be beyond developer control due to external factors such as publisher interference, platform health, company mismanagement, corporate buyouts, or the financial success/failure of other games from the same publisher. Regardless, the current trend of corporate acquisitions and subsequent closures despite glowing reputations suggest that for multinational corporations, reputation is much less important than simple economics.

To return briefly to Psygnosis (renamed SCE Studio Liverpool), the studio that heavily contributed to bringing Sony to prominence in the UK was closed in 2010 despite being described as “an important part of SCE Worldwide Studios since the outset of PlayStation.” Sony's publicly stated reason for the closure is purely economic: “[I]t was felt that by focusing our investment plans on our Studios that are currently working on exciting new projects, we would be in a stronger position to offer the best possible content for our consumers” (Yin-Poole, 2012a). Thus, in the highly competitive world of software development, studio reputation is secondary to perceived current profit potential, even for studios wholly-owned by platform holders. This emphasis on economic potential is even greater for third-party developers where console manufacturers and external publishers have a far lower financial stake and a greater amount of competing options.

For development studios, reputation has not been an effective counter to global publishers' concerns over corporate profitability. Just in the past few years, Bizarre Creations in the UK and Junction Point in the US were both shut down by their corporate owners (Activision Blizzard and Disney respectively) within six years of their acquisitions, despite histories that include highly influential and financially successful titles and, in the latter case, an especially famous studio leader. Even for studios that aren't completely shut down, the temporal dimensions of game production inhibit building a studio reputation when redundancies occur immediately following a game's completion (often before a product's financial performance can even be assessed).

One place where the importance of developer reputation has returned is in the realm of crowdfunding, where developers need not appeal to publishers but directly to players. Nearly every one of the most successful crowdfunded games on services like Kickstarter rely heavily on appeals to both their developer pedigree and franchise history, with many of these games "spiritual successors" to games that publishers determined would not make financially-viable sequels (e.g. Kickstarter, 2012a; 2012c; 2013a; 2013c; 2013d, web).

Often, however, franchise nostalgia trumps developer reputation, with, for example, inXile's recent commercial and critical failure *Hunted: The Demon's Forge* (2011) as well as the vast chasm of time since the developers worked on 1998's *Wasteland* and 1999's *Planescape: Torment* (or any other functionally similar titles) not dissuading player-funders' nostalgic desire for sequels to these titles. Combined funding for the two surpasses US $7 million, placing them in the top five most funded game projects in Kickstarter history. Moreover, it is unclear how this reliance on reputation and nostalgia benefits developers across the spectrum of development studios or whether this system will simply end up conforming to other stratified systems of game funding that are either highly risk averse (favouring assured successes) or the smallest and least risky investments with little room for those in between (see Orland, 2012).

Industrial factors are also shifting power relations as the roles of developers, publishers, and console manufacturers continue to change. Johns notes that "[a]s the cost of development has increased, publishers wish to increase the proportion of value that they are able to capture by owning more stages of the production process" (2006: 166). This has led to concentration and a return to the significance of hardware manufacturers in determining value capture even for software producers. Companies like Microsoft now do far more than merely exert their control over the value chain through the manufacturer of physical discs, today capturing value by operating online digital distribution systems, publishing third-party titles on these systems, selling these and other products on their digital marketplaces, and operating development studios.

Nearly every large multinational corporate hardware manufacturer and publisher has vertically and horizontally integrated in this type of fashion to maximise value capture.

Profits ultimately flow back to the corporate headquarters, however, rather than remaining with the developers who have become further marginalised in this system. Third-party development arrangements in which independent studios create games to be published by these multinational corporations do not reap the benefits of this concentration of value capture potential, which has a significant impact when evaluating the geographic dimensions of game development.

While the US houses a number of significant hardware platform holders and multinational publisher headquarters, these companies rely heavily on game development occurring in other countries, allowing value to be generated elsewhere with a greater proportion captured at home. The UK, on the other hand, is a country rich in development studios, but as mentioned in the previous section, does not contain hardware manufacturers and a limited number of large publishers operating on a global scale. Given the unequal flows of value between industry stakeholders, the UK is generating a great deal of value for the industrial network, but that value is largely being captured abroad.

While this may be true for traditional console game development, the dissolution of several large development studios in the UK over the past several years has opened the door for the nation's industry to reorganise and becoming increasingly “young, independent and mobile” (TIGA, 2013b, web). New funding, monetisation, self-publishing and service-based models for game production are offering independent developers new opportunities to take on multiple roles typically held by other companies, offering greater potential for value capture without having to engage with multinational vertical integration.

These shifts provide more leverage for British developers in the global marketplace, but can also mean lower risk for projects opting to pursue a more specialised audience. One example is Big Robot's *Sir, You Are Being Hunted* (2012, initial alpha release), an in-development game headed up by British author and games journalist Jim Rossignol. On the company blog, Rossignol describes the game as one that:

> "taps into a rich seam of tweed-loving British science fiction... set in a recognisably British landscape. Its inhabitants are a mockery of the aristocratic country gent and his ecosystem. Robots that ape tea-drinking, poachers that lurk in reed-beds, and red-eyed hounds that patrol the moor" (Rossignol, 2012, blog post).

Taking advantage of the Kickstarter crowdfunding service (raising nearly £100,000), direct purchases available on their website, digital distribution through Steam and the Humble Store, and offering players access to the game as it is in development, *Sir, You Are Being Hunted* demonstrates the potential for these new trends to encourage heavily culturally-inflected content likely to resonate most strongly with a specific national audience.

Ultimately though, the unequal distribution of economic flows across national lines continues to contribute towards conceptions of game players as consumers within a global marketplace. The population distribution of hardware manufacturers, publishers, and developers in national contexts influences where value is captured and thus, where control is concentrated within institutional power relations. Hence, the economic necessities driving these systems unequally distributes where decisions about target players are made and embeds these decisions within systems arranged by a neoliberal logic. The result then continues to be players defined primarily by their role in the marketplace, not as perceived on the national scale but as economically effective for the network as a whole.

Deregulation and Creative Industries

While industrial organisation is a powerful aspect of geographies of game production and the ways the playermaking process unfolds within national contexts, it certainly does not occur in isolation. This section looks at how national approaches to media policy (especially that focused on digital games) shape the ways in which national industries emerge and operate, and what types of players these policies construct.

As described above, the digital games industry is a planetary hybrid that envelops the actions of national industries around the globe in a shared neoliberal production network. The United States and the United Kingdom, as two Western developed states within this

network that shared a politically-touted “special relationship” (Dumbrell, 2009), have had a great deal of overlap in their approaches to industrial policy particularly in the deregulatory climate during which the modern digital games industries in both countries came into full force.

Despite these broad similarities, the two countries do exhibit a number of national specificities in media and cultural policy. These ultimately revolve around policy's role in shaping national industries and their approaches to digital games as “cultural” products, resulting in a tension between constructing game players as commercial subjects or social beings. I argue that even when framed in terms of culture and individual protection, the overwhelming logic of capital subsumes these arguments in economic terms, primarily constructing gaming audiences as market entities.

Neoliberalism and US Games Policy

The United States embodies the current of neoliberalism structuring national approaches to media production around the globe based largely on the idea of market competition. In nations like the US that emphasise this neoliberal approach via industrial tax break incentivisation, governments at the state, provincial, regional, and local levels compete with one another to attract publishers and developers who will presumably be spending large amounts of money within the country. Here, media policy is utilised in pure economic fashion regardless of any presumed cultural significance of the products being created, which are firmly secondary if mentioned by policymakers at all. The players constructed within these systems are themselves neoliberal entities defined entirely by their actions in the marketplace, reducing the complex actions of people playing games down to pure consumerism.

While the digital games industry is certainly planetary in nature, the US holds a privileged position in the production and distribution of media more generally, and is the home base of many of the world's largest multinational media conglomerates. In this environment, the implications of policy actions like the Telecommunications Act of 1996, which displayed the dominance of market-based policy in the US, allowed for greater levels of vertical and

horizontal media integration, and signalled the significance of emerging internet and technology firms in the traditional media and telecommunications landscape, have far reaching impact not only on the domestic industry but on global media production. Dwayne Winseck argues that during the 1990s, "[t]hese trends did not add up to deregulation, however, as the number of telecom and media regulators worldwide skyrocketed...The mandate of these agencies, however, is not primarily to serve as a check on unbridled market forces but to deepen and extend them" (Winseck, 2011: 15).

The phase of mergers and acquisitions described in the previous section emerged out of this regulatory climate, impacting not only on the digital games industry but a media landscape defined by conglomeration, particularly in the merging of and disruption between traditional media firms and technology-focused companies. The bursting of the "dot com bubble" in the early 2000s and the failure of the era's preeminent media-tech merger, AOL-Time Warner, led to a shift of focus from pure concentration of the media industries onto the more complex notion of "deconvergence" as "the media and communication industries' new 'golden' strategy" (Jin, 2011: 173). This internal (rather than external) corporate strategy typically involves "the sale of profit-losing companies, spin-offs, and split-offs and massive layoffs" (2011: 173). The motivations for this type of deconvergence is financial, with Jin arguing that companies adopt this strategy "not because of pressure from civic groups or citizens who want media diversity and democracy but because of intense pressure from shareholders, in particular, large institutional shareholders" (2011: 176).

Other related corporate strategies that have become fundamental to media (and game) production are globally (and locally) outsourced labour, increased emphasis on contract arrangements with individuals and other companies, and flexible and mobile bases of operation. Driven by economic imperatives, these three factors combine to cause a physical shift of media production to areas with attractive tax incentives, be they focused on labour, operations costs or both.

For the US, this plays out on both the intranational and international scales. On the federal level, no broad games industry-wide tax relief is in place, though national policies like the

aforementioned Telecommunications Act of 1996 or the Digital Millennium Copyright Act (DMCA) and governing agencies like the Federal Trade Commission have economic influence over the industry. The industry's trade body, the Entertainment Software Association, lists copyright protection, regulation of violent content, and free-trade agreements as other areas of policy on which they lobby, all of which have an impact on the way national policies play out across the industry on the national level (ESA, 2013, web).

However, the issue of tax incentives largely occurs on the state level. Some states, like California, do not have to rely on tax relief to attract game development, largely due to existing infrastructure and linkages with traditional media (Hollywood) and the technology sectors (Silicon Valley), meaning a high population of game companies in both the Los Angeles and San Francisco Bay areas.

After California, the nation's second largest hub of game development is Texas, a state that also houses a high concentration of both media production and technology firms. Moreover, Texas offers a prime example of how a state can leverage a variety of policies both general and specific to media (or even one medium) to incentivise production within state borders. On the general level, Texas is “Wide Open for Business” (as a state slogan claims) with no state income tax for individuals and no corporate income tax, an exceptionally low franchise tax (with a possibility for exemption for small companies), zero state property taxes, and various other tax-based incentives and credits (Texas Economic Development Division, 2013, web).

Specific to media production, the Texas Film Commission has established the Texas Moving Image Industry Incentive Program as a way to support existing media productions as well as attract productions from elsewhere around the nation and globe. For digital games, this program offers “an incentive payment of up to 15% of eligible Texas spending,” which includes employee wages and insurance, pre-production and research and development costs, “goods and services domiciled and used in Texas that are directly attributable to the physical production of the game product” (e.g. costly production equipment, which are also eligible for sales tax exemption), legal fees, and various other

costs occurring within Texas boundaries (Texas Film Commission, 2013, web). For the state, these tax incentives help retain businesses within state borders while also encouraging the use of products and services produced and offered within Texas.

Many other states have followed suit in making theirs an attractive location for businesses in general and for game development in particular, including Georgia, Louisiana, North Carolina, and Florida. The climate within the country, then, is one defined by distinct models of tax incentivisation that pit different states in direct competition with one another in attempting to both encourage indigenous production as well as attract large multinational corporate studios. Moreover, this focus on competitive tax advantages is not constrained to the production of digital games, but a trend that encompasses virtually all other media production (e.g. Christopherson and Rightor, 2010). This competition-focused approach to business development, however, offers a number of perils for states and nations.

The digital games industry is an especially risky business, as discussed throughout this thesis, requiring state policymakers to have an awareness and understanding of the games development business in order to design policies that will protect the interests of the taxpayers footing this bill. Policymakers in Rhode Island, for example, learned this lesson the hard way. A combination of overzealous incentivisation to poach developer 38 Studios from competing state Massachusetts and a lack of regulatory oversight and industry knowledge to cope with studio mismanagement and unrealistic expectations has left taxpayers with a bill to the tune of over US $100 million following the studio's collapse (see Bai, 2013).

The other major impact of this intra-national system of tax-based competition is that it opens the door for international competition in areas willing to provide even greater incentives. For the games industry, this is occurring around the world, but nowhere more visibly than in Canada, which has a similar internal system of competition between provinces and territories for who can offer the most attractive benefits for development studios. The tax credits available across Canadian provinces are typically at a higher rate than those in the US, with British Colombia's Interactive Digital Media Tax Credit offering

a sizeable 17.5% credit on salary and wages (Province of British Colombia, 2013, web), Nova Scotia's Digital Media Tax Credit reimbursing the lesser of either 50% of labour expenses or 25% of total expenses within the province (Province of Nova Scotia, 2013, web), the Ontario Interactive Digital Media Tax Credit giving a hefty 40% credit on labour and some marketing and distribution costs (Ontario Media Development Corporation, 2013, web), and Québec offering a 37.5% reimbursement on labour costs (Revenu Québec, 2012, web). These provincial incentives are frequently further supplemented by the federal Scientific Research and Experimental Development Tax Incentive Program which can offer an additional tax credit of up to 35% (Canada Revenue Agency, 2008, web)[1].

Daniel Joseph sums up the Canadian government's approach to media regulation as follows:

> "Instead of fostering arts for the public good, the state frames the discourse around culture as one of dollars and cents, something reducible to a pure economic equation. This is the economic instrumentalisation of culture, where the public is framed as simple rational economic actors, whose only interest in communication and culture is their pocket book" (Joseph, 2012: 30).

In the US and Canada, as well as other nations that emphasise this neoliberal approach to digital games industry tax break incentivisation, individual governments at the state, provincial, regional, or local levels have the ability to compete with one another on nearly pure economic terms.

In terms of playermaking, the result is that as indicated by Joseph: the presumption of a rational consumer audience of game players. As Mike Ambinder described in our interview,

[1]The rise of Canada as a digital game development hub is extremely reminiscent of the country's role as a magnet for "runaway production" in the film and television industries, particularly in the 1990s when both exchange rates and governmental incentives attracted Hollywood projects (see Tinic, 2005).

> "We're not making a product for a specific audience. It's more just making a specific product that we feel is entertaining, and then letting the market decide how they want to break themselves apart in terms of who plays the game and who doesn't" (Ambinder, interview, 2012).

Moreover, in encouraging a highly mobile and deterritorialised workforce, it de-links the physical geography of game development from the local or national and embeds it in a system defined by pure capital. Given that so much of the playermaking process on an individual level reflects the experiences and conditions of production of the workers making games, this impact on the geography of labour and the emphasis on commercial viability contributes heavily to the conception of game players as primarily commercial beings.

Regulating Culture and the UK's Creative Industries Approach to Games

For the US, the emphasis on regulating media as product rather than culture is consistent with current neoliberal trends in government regulation within the nation more generally. However, other countries like the UK take a more active role in conceptualising media content as cultural material, with policy reflecting the tensions between the commercial and cultural aspects of modern media industries. While the global media network's underlying logic of capital aligns much more directly the policy directives of the US, in the UK conceptions of game players as both consumers and social beings is navigated alongside questions of policy's role in encouraging domestic production in the name of culture. Ultimately, I argue that just as policies focused on cultural protections often rely on economic arguments while those advocating industrial protections invoke cultural arguments, so too are the conceptions of game players as consumers and sociocultural beings being closely intertwined with one another. Serving as part of the highly competitive games industry network, the conceptions of players as market entities tend to have a dominant position in discussions, and so too do policy arguments focus on the industry's economic qualities as implicitly cultural ones.

This approach to digital games policy sits within the broader context of national media policies falling under the heading of the "creative industries" since New Labour's adoption

of the term in 1998, which holds the tension between culture and commerce at its very core. Nicholas Garnham considers this an empty "slogan"-based, ideologically manipulative approach to policy, using unquestioningly positive rhetoric within the existing "shift from state to market across the whole range of public provision" (2005: 16). Kate Oakley is less focused on the rhetoric of the creative industries policy movement, but argues that in practice it largely privileges and separates these industrially-focused policies from cultural and social policy that ought be working in conjunction with one another (Oakley, 2004). Galloway and Dunlop are even more critical of this policy shift, claiming that despite being touted as focused on "creative" industries, these policies are devoid of an understanding of cultural products and practices, instead subjecting the activities of cultural production under strictly economic policy imperatives (2007). Together, these criticisms indicate the dominance of economic and market-based logic even within seemingly culturally-focused policy.

Within this UK policy environment, tax breaks for the digital games industry are, at the time writing, still uncertain. Having been bandied about for years, campaign promises of tax relief were scrapped with the forming of the coalition government as "poorly targeted" (Stuart, 2010), reintroduced and re-supported (see Rose, 2012b), and now are being challenged by the EU under anti-competitive concerns (European Commission, 2013, web). While competition is the driving force underlying the American approach to state-based tax incentives for game development, in the EU unequal provisions of such incentives are considered harmful to the competitive potential of the region as a whole. The European Commission is explicitly concerned with the possibility of tax relief "distorting competition" or setting off a "subsidy race between Member States," which is exactly the type of incentive system that the rest of the global industry relies upon (European Commission, 2013, web). Within the EU, then, the baseline is positioned as no regulatory incentives regardless of external competition, with countries required to make the case for individual national policies on cultural rather than economic grounds.

On the national level, this means that countries perceiving economic threats to their indigenous production from elsewhere in the global network are able to make economic arguments for regulatory policy within their own national contexts, but must emphasise the

cultural component once coming under EU scrutiny. The primary factors cited by trade bodies TIGA and UKIE in their calls for tax relief are decidedly economic, relying on arguments demonising external threats from elsewhere in the global production network like Canada that do offer tax incentives (TIGA, 2010b, web). Likewise, they point to the increased mobility of both the industry and its workers, which has combined with this external competition to contribute to a "brain drain" of British development talent to these other, more competitive territories (Stuart, 2012).

Also concerning to industrial stakeholders is the potential loss of inward investment from multinational corporations. Bobby Kotick, head of global publisher Activision Blizzard, publicly decried the early reversal on tax relief as a "terrible mistake" when "[t]here are so many other places encouraging the video games industry," interpreted by the press as a threat to move operations to more tax-friendly nations (Blackden, 2010). Activision Blizzard did end up scaling back their UK presence and shutting their flagship British studio, Bizarre Creations, a year after making this statement.

In our interview, one anonymous British developer reflected on the possibility of UK games industry tax breaks and the decisionmaking process of where to set up a development studio in this light, stating, "There are definitely all manner of incentives in different locations within the world, as with anything... You certainly don't want to be in a situation where... as a country, you're literally... pricing yourself out of a market" (Anonymous A, interview). In response to these clearly economically-motivated reasons for tax relief, there is a major shift in policymaking discourse required to convert these economic appeals into cultural ones.

This tension between economic and cultural policy arguments is manifested most visibly in the proposed UK tax relief plan's inclusion of a "cultural test" for game development projects that could receive this relief. Patterned very closely after the UK film policy's test, the cultural test for digital games is a "positive" test, meaning that a game is presumed not to be culturally British until the test affirms that it meets specific qualifications. In contrast, the Texas incentive program mentioned previously includes a "negative" culture testing clause, which does not require developers to prove their cultural standing, but merely does

not include “content that portrays Texas or Texans in a negative fashion” (Texas Film Commission, 2013, web).

The UK's proposed cultural test is a points-based system, with games needing to earn a set number of points from a variety of categories such as game setting and characters, nationality of production staff, location of development, and usage of the English language (HM Revenue & Customs, 2012: 467-468). While the goal is ostensibly to determine whether or not a game is culturally British, John Hill argues that the film industry's cultural test (upon which the games test is modelled) is intentionally flexible in order to support policy imperatives to encourage both domestic production and inward investment, with the example given of the Hollywood blockbuster *The Dark Knight* managing to pass the cultural test despite questionable “Britishness” (Hill, 2012).

The European Commission specifically called the games cultural test into question, doubting whether “the proposed cultural test ensures that the aid supports only games with cultural content” (European Commission, 2013, web). UKIE's response that “this support is crucial in opening up the opportunity for developers to make culturally British and European games” further muddies the water by merging appeals towards both British and European culture into an argument for tax relief for a single nation, the UK, while across the board (and even with a points-based test) it still remains unclear how to actually determine the ways a game reflects British culture (UKIE, 2013b, web). This vagueness underscores that cultural and economic arguments are closely linked, with policymakers willing to utilise a cultural test for economic imperatives while economic industrial protection is assumed to contribute towards culture automatically.

Aphra Kerr stresses the “political transnationalism” (2013: 216) of the industrial stakeholders and alliances structuring the European landscape, pointing out that both TIGA and UKIE are populated and largely led by multinational corporate members rather than purely British ones, with significant overlap occurring between these national organisations and their pan-European counterparts, EGDF (the European Game Developers Federation) and ISFE, as well as with the American ESA. Moreover, TIGA and EGDF are trade bodies for developers while UKIE, ISFE and the ESA are aligned with publishers,

meaning even when the stated goals of these trade bodies may be the same (here, UK tax credits) their motivations and strategies may differ based on their represented institutional stakeholders.

Focusing on the French tax credit scheme (introduced in 2008), Kerr argues that developer trade associations lobby on the basis of games as cultural products like film and television while the publisher bodies instead position games as software to "avoid any classifications that might make games subject to content, quality and distribution regulations in place in Europe in relation to audiovisual and cultural products" (2013: 224). The French system, which serves as the EU precedent against which the current British tax credits have been evaluated, passed EU scrutiny only after Ubisoft, who have significant presence in both publishing and development, opted to side with the developer associations and lobby on the basis of culture. Not only does this indicate the negotiations at play between different institutional stakeholders and the complexities of regulatory balancing of economic and cultural arguments, but also "highlights the fact that transnational corporations may act locally in some instances and transfer allegiances between transnational associations" (2013: 226).

In terms of playermaking, this approach to policy continues the merging of creativity, culture, and business emblematic of the "creative industries" approach to assume that protecting economically-defined audiences within the nation implicitly means a protection of a nation's sociocultural audience. The UK offers one example of how policymakers attempting to navigate the tenuous boundaries between internal and external competition (with the additional complexity of European regulation and identity) struggle to clearly define national culture in a highly globalised society and industry, instead falling back on economic arguments. Regardless of whether or not a government is considered to have an intrinsic obligation to support domestic content, the UK government's use of cultural arguments for policy indicates their rhetorical investment in such an idea, but the economic policy outcomes indicate a very different actual focus. Thus, appeals towards the cultural aspect of national game production do little to impact on the more general industrial construction of digital players as primarily consumers potentially existing in a nation, but serving as actors in the broader global marketplace.

The Disavowed National Audience

The focus on players as market-based entities means that other features of the audience, including demographic information and national character, have been marginalised in favour of consumer behaviour. The issue of the "national audience" for playermaking, then, is deeply wrapped up in issues of distribution. As games become increasingly distributed digitally across the internet, traversing national boundaries and freed from the physical proximity of brick and mortar retailers to their consumer base, developers and publishers can more easily reach audiences beyond that of the local population, and must make their ventures profitable. The "national audience" for digital games has largely been disavowed by the creators of digital games in favour of the planetary consumer market that spans all nations connected to digital marketplaces.

That said, some national characteristics do persist through genre and platform preferences, position in the regional marketplace, and cultural engagement with the medium. Likewise, most game distribution still involves physical media that require national and international distribution networks and infrastructure, while technological strategies like "region locking" (the use of built-in hardware restrictions to make a product only usable within a specific geographic and/or market region) and delayed release windows attempt to reimpose physical boundaries onto internet game distribution. Even when attempting to reach the idealised global consumer market, digital game distribution continues to navigate geographic and sociocultural boundaries.

Distributing Globally

In the hybrid network of the digital games industry, not all countries are created equal in terms of production capabilities, but also in terms of their share of the global market. The distribution of digital games, and conceptions of digital game players, involves a two-way flow between the broad global market and more localised regional or national industries. The global market recognises the specificities of national contexts in distributing products within different regions, using technological, cultural, and institutional methods of adapting and controlling content within different geographic areas. On the other hand,

national industries increasingly focus their attention on the global scale to both increase the range of their potential exports and attract inward investment from foreign financiers to buoy up domestic production. The result is a paradoxical relationship in which global forces sustain and reinscribe national specificities into production while nation-states increasingly take a global approach to their digital game production.

In terms of specific national game distribution, the US is the largest gaming market and thus most games see release in North America out of pure economic necessity. Of the other major game markets, the UK is especially appealing to game publishers for a variety of reasons. One notable component is language, with the importation of a game from the US to the UK requiring little or no "localisation" (an industry term used to describe both linguistic and cultural translation of game content required when preparing a game for distribution to different geographical regions) compared to countries speaking other languages, as the two nations share what Jennifer Johns describes as a "cultural proximity" (Johns, 2006: 172).

Greg Kasavin pointed to cost, market potential, and quality of performance as factors guiding the localisation decisions for the very language-rich *Bastion*, which he linked directly to assumed audiences. For his team, choosing to focus on a specific region or national audience was not a harsh restriction, but allowed for a greater degree of creative freedom, stating in our interview:

> "Since we endeavored to make this game that's fully narrated in this kind of vernacular English... we just assumed that people outisde of the United States would not care about this game at all, or outside of the English-speaking world. And again, that got back to the platform numbers, and what we anticipated the international breakdown would be, and once we sort of freed ourselves of this idea that we need to make this game that everyone in the entire world can enjoy, once we decided to limit ourselves to English, it was a very liberating feeling because we could push forward with a story and not worry about it. Whereas, I think if we were making a $50 million retail game, it's out of the question, you can't make a decision like that. I think there was still a part of us that thought, the quality is the most important thing. And even though it's going to be English-only, people in other territories may still care about it, and that's turned out to be true. And

> we sort of had faith that they would understand the design decision, understand our team's constraint on the subject" (Kasavin, interview, 2011).

Similarly, Steve Gaynor recounted his team's views on the potential global audience for their game *Gone Home*, with platform initially determining their expectations:

> "The numbers show that most of the sales in all likelihood are going to come from North America and mostly from the United States, and then Europe is going to be a secondary market... The only way that affects us are, all right well, we hope to be distributed on Steam, and if we are, then we'll be distributed anywhere that Steam distributes games. Getting it to people in other territories is just part and parcel of that whole process." (Gaynor, interview, 2012).

However, language and cultural specificity of the game's content ultimately played a part in who Gaynor assumed would play the game and how they would be engage with it, continuing:

> "The other side of it is localisation. And so that would be a production question, so is it worth it, does it make sense, to localise this into German, French, Spanish, Italian, Russian, etc, and we don't know for sure. It's something that would just be time and money to do... There are not very many countries in Europe where the audience for video games does not at least have English as a second language, so it's one of these things where I think that we will have appeal in a lot of different countries... I also think that it will be an interesting thing to track people's reactions to the specific culture that's being depicted in *Gone Home* because it takes place in 1995 in the Pacific Northwest in America so there are going to be a lot of cultural touchstone kind of things that are going to be taken as assumptions here, but if you didn't grow up in America... you wouldn't take them for granted as much." (Gaynor, interview, 2012).

Gaynor and his team investigated this assumption by sending the game to friends and acquaintances from other countries, indicating the continued importance of social connections and anecdotal evidence in how developers understand their audiences. He recounted:

> "We sent the build to some people we know in Europe and somebody commented, they were like, 'There was a bunch of stuff in there that I felt like I should know, you know, what the implications of it were, but I didn't grow up in America so it just seemed kind of like, I didn't know if I was getting it' but other people that we sent it to who are British who are familiar with a lot of American TV or movies, they commented that they found it cool. Somebody that we sent it to was a big fan of *Twin Peaks*, and they were like, 'Oh yeah, it kind of reminded me of *Twin Peaks*, it had this American feeling to it that felt a little bit foreign and a little bit familiar from media I've watched, and that was cool'" (Gaynor, interview, 2012).

Moreover, this follows Jennifer Johns' emphasis on cultural proximity between the US and the UK where media distributed in both countries bridged the gap between lived cultural experience. In this same vein, British developer Andrew Smith told me that his approach to design was "international," but by that meaning "not literally every country" but "'The West' as in... North America and Europe... being culturally, not the same, not at all, but broadly the tastes kind of coalesce and overlap" (Smith, interview, 2012).

The UK's relatively large population of game players and ease of localisation means that therefore it is often financially logical to release a game developed with the American audience in mind to the British market as well. However, the UK also holds a unique position as the gateway to the extremely segmented European market, where the cultures are less "proximate" to the United States and a multitude of languages dominate. With regard to infrastructure, once the decision has been made to distribute a game in the UK the cost is drastically decreased to also release the game elsewhere in Europe. Moreover, game titles released in the UK must be rated by PEGI (the Pan European Game Information ratings system), which is applicable to other countries in the EU and thus a shared cost.

While this makes the prospect of games destined for the UK also coming out in Europe much more attractive to publishers, in some cases it also works both ways in discouraging games from being released in Europe (and the UK) at all. In defending discrecepancies between content available in different regions, former Sony Europe president David Reeves pointed to the sheer amount of localisation required for the numerous European

countries as an impediment to getting games released in the territory, along with complex licensing agreements (for content such as in-game music) that must be negotiated in each country (Bramwell, 2009). While this could be accomplished rather easily for just one country like the UK, Reeves claims that British gamers often have to wait for the other European versions of game to also be ready in order to avoid criticism for being "Anglo-centric," indicating that cultural concerns also impact on game distribution in this context (Puchese, 2008).

On a practical level, this could have a chilling effect on developers creating content that is especially culturally specific. More broadly, it is one more reason that game designers focus on the global audience rather than a nationally specific one for either financial or artistic reasons. ThatGameCompany's Sunni Pavlovic described their approach to me as follows: "We design all our games to be as widely accessible as possible – we intentionally design our games to remove the limiting barriers of language, culture, and experience with playing games as possible" (Pavlovic, interview, 2012)[2].

With the rise of digital distribution, these types of appeals to a global audience become more plausible as games can more easily traverse national borders via the web than when in physical form. With this type of distribution system in place, one interviewee claimed despite being located in Britain, they "definitely" develop games with a global audience in mind because "there's no reason to limit yourself" (Anonymous A, interview).

Over a third of game sales in the UK occur digitally, a number that is rising each year, while the retail market is seeing consistent significant declines like the 17.4% drop from 2011 to 2012 (TIGA, 2013a, web). As many as 45% of high street games retailers closed in 2012 alone (Local Data Company, 2013), with chains like GAME, Blockbuster, and HMV all entering administration and prominent industry analyst Michael Pachter confrontationally proclaiming, "The UK games retail market is a joke" (Laughlin, 2013).

[2]Sunni Pavlovic is the Studio Manager at That Game Company, who primarily make downloadable experimental, emotion-driven games for the PlayStation 3 including *Journey* (2012) and *Flower* (2009).

This has strengthened digital distribution services, which offer the potential to reach a global audience but still retain national modes of content control and introduce new geographical inequalities. Just as physical games media typically includes “region locking” technology to prevent games being played outside of their intended territories, so too does digitally distributed software contain these types of encoded reifications of national barriers. The physical distribution model of staggered “release windows” also continues in a completely artificial fashion in the digital realm in order to maintain alignment with physical retail distribution, leading to consumer frustration and causing one games journalism site to launch a “No Oceans” campaign for standardised worldwide release dates (Walker, 2011).

As games continue to shift towards service models that require a constant connection between the client's device and the game publisher's server, these enforcements of digital geography move beyond the point of sale to every attempted client connection. Thus,

> “even as the culture of games is losing, or has lost, any claim to an 'originary' national culture, capital seeks to keep some boundaries in place to channel this flow... However much digital industries attempt to rise above the constraints of physical boundaries, or discard the national, it reappears, here as the current solution for channeling flow” (Consalvo, 2006: 133).

Technological and industrial forces developed and operating on a global scale across the digital games industry therefore end up reinforcing the network positionality of the nation state. The centrality of the internet connection in digital distribution systems and service-based models also emphasises the geographic inequality of broadband penetration. Both fixed broadband and mobile internet access are regulated by government bodies, meaning that national policy affects a country's adoption rates of different broadband services. Geography also plays a more explicit role, however, as different countries deal with the challenge of distributing internet access to their uniquely positioned rural or hard to reach areas in different ways.

However, global distribution doesn't just open the door for large dispersed potential audiences, but actually demands reaching audiences that cannot be found in solely one

country in order to break even on production costs. One anonymous developer described this need in our interview, saying “The volume of players that you can and indeed have to hit on mobile with a free to play game mean that you have to be blind to demographics and cater to all”(Anonymous B, interview), suggesting that this new business model discourages a focus on a specific audience in favour of an audience defined by its size above all else.

Moreover, the emphasis on the global audience is encouraged by broader national policy initiatives in the UK, with industry trade body TIGA touting the games industry's ability to contribute to an “export led” economy. TIGA reports in 2010 and 2011 stress the heavy reliance on exports for the industry, with statements like “91 per cent of UK games developers export their products,” “[f]or 72 per cent of UK game developers, the USA constitutes one of their most important geographic markets,” and “on average, 62 per cent of a developer's turnover is generated from the export of games” positioning this focus on exports as a strength of the UK developers rather than a weakness. This places the industry in a unique position to fit into governmental imperatives towards “reorienting the UK economy towards high technology, low carbon, highly skilled, export focused industries” (TIGA 2010c; 2011, web).

Here, the conception of gaming audiences as global is both idealised as well as commercialised, downplaying national, cultural, and linguistic differences in favour of the one commonality: market behaviour. Within broad governmental plans to capitalise on the UK's high-tech economic potential, domestic production is positioned primarily as a way to capitalise on global markets and draw funds in from abroad rather than serve players within the nation. Thus, while technological and industrial shifts playing out on the global scale may reinforce the specificity of domestic production and national game players, the idealised global consumer image now dominates conceptions of digital game players across national contexts.

Distribution and Cultural Imperialism

The impact of distribution systems is not limited to nations as consumer markets, but also to the potential for indigenous games and culture. The dominance of North American and Japanese game distribution suggests that developers in other nations have a much bigger hurdle reaching players in both international and domestic settings. The rise of abstractly "global" systems of distribution mitigate this problem to some degree, but at the same time decouple the link between indigenous production and local/national consumption, meaning that players often have no or little understanding of where a game is made even if that was "down the road." Likewise, developers are less likely to make explicitly cultural appeals or products that would indicate this geographic proximity between producer and consumer if the audience they are targeting has now become a global one.

As Aphra Kerr and Roddy Flynn argue, this is not a question of cultural imperialism but of power relations within international flows of cultural globalisation. They cite John Tomlinson's (1999) in their argument that "deterritorialisation and hybridity are both dialectical processes and must be viewed in relation to a culture's ability to reassert and re-embed itself," with the former offering an "erosion of any direct relationship between culture and both geographical and social places" while hybridity merges various cultures but "is never power-neutral." The authors argue that

> "recent trends whereby transnational media corporations are increasingly allowed to concentrate, assert themselves in production and distribution segments of the value chain and exploit culture goods globally may be reducing cultural diversity in certain forms of media content despite the efforts of localisation teams, regulatory bodies and alternative media groups" (Kerr and Flynn, 2003: 94-95).

While the digital games industry is increasingly organising itself based on a logic of capital, Kerr and Flynn argue that "market forces alone are not providing the range of representations that are possible" for the Irish audiences on which they are focused. Furthermore, regulatory policies aimed at supporting domestic production do not address these issues, as "the unequal access to distribution and exhibition resources in these

industries signals an important and unequal power relationship, which free trade debates rarely take into account" (2003: 109).

The emergence of low cost and global methods of digital game distribution helps balance this equation a bit, as more developers can get their content onto devices owned by consumers. However, power relations still shape this flow, as the more open distribution platforms are flooded with titles, raising production costs in the race for higher quality content and marketing costs required for a title to be noticed amidst the noise, thus limiting the ability of smaller developers through economic pressure. Moreover, the devices with the biggest market share, home consoles, have much more closed digital distribution systems and, as described in previous chapters, closely moderate the content they allow on their devices, leading previously "independent" focused digital distribution platforms (like Microsoft's Xbox Live Arcade) to become dominated once again by traditional multinational publishers.

Even when games of high production value and consumer awareness do see wide release in their domestic market, the industrial dominance of North America and Japan still manifests itself in the perceptions held by the audience. In NESTA's Next Gen Skills Review, authors Ian Livingstone and Alex Hope identify that many British game players don't realise that some of the industry's most high-profile and best-selling games were developed in the UK. 41% of surveyed British young people assumed that *Grand Theft Auto* (1997), *SingStar* (2004), and *Lego Star Wars* (2005) were developed in the United States, with less than 5% correctly identifying these games as created within the UK (parents and teachers only fared slightly better, correctly answering approximately 12% and 21% respectively) (Livingstone and Hope, 2011: 35-36). Thus even if domestic production thrives, there is no guarantee that actual players or members of the general public will be aware of this fact, throwing the value of this type of production's "cultural" influence into question.

While Livingstone and Hope focus on the impact this has on education and the eventual workforce, it also has significant implications for questions of national identity. As a communications medium dealing in the symbolic, the growing emphasis on global game players defined primarily by their market actions influences the ways developers can

contribute to national or local culture when faced with the pressure of making content aspiring for this widely dispersed, nationless audience. This is only intensified when, as just mentioned, national cultures don't recognise or emphasise production as domestic, but instead as the output of a global production network regardless of whether or not the work occurred within national boundaries.

Industrial reorganisation has generally led to more options of lower cost and lower risk projects especially on mobile platforms, meaning developers can focus on more specific target audiences if they balance development costs effectively. Moreover, this return to the nation's "bedroom coder" heritage has downplayed geographic concentration and allowed developers to create games in their local areas, which is especially important representing the diversity of developers and audiences in a multinational country. It also holds the potential for a more long term, sustainable development ecosystem in which individual market failures and reliance on external support are less prominent, while key factors like control over intellectual property may become more equally distributed globally.

However, as argued above, this is not merely an issue of safeguarding national production capability, which has been the focus of much UK games regulation, but concerns questions of game distribution and public perception. The lack of recognition by British game players (and the general public) of games made in the UK suggests that even beyond the industry, society views the digital games industry as part of an unequally global production network. Ultimately, if the national aspects of the players produced by the game development process within this network are disavowed, the potential for cultural hybridity expands but in the unequal fashion dictated by institutional power relations.

Conclusion

This chapter has looked at how national contexts influence the playermaking process despite occurring within a highly networked global digital games industry. In terms of industrial organisation, inequalities in the shape of both hardware and software production networks significantly impact the way that national industries function and how playermaking occurs within these contexts. In terms of hardware, the US benefits from

housing domestic hardware manufacturers and platform holders while the UK does not, leading to increased associations of the "platform image" of devices like the Xbox 360 with American audiences while the players in countries without hardware production are continually marginalised. For software, the flows of capital across national boundaries has meant that nations focused on game development (like the UK) rather than publishing have struggled to effectively capture value from other stakeholders exerting more control in the global network. Industrial shifts like digital distribution are disrupting the way these relationships play out and how value is captured within them, with the UK's reorganisation into an independent and mobile development nation positioning it to capitalise on both these new industrial developments and national development heritage.

Policy also impacts on the shape of national industries and the players that these industries construct. Both the US and the UK share a western emphasis on market-based approaches to media policy, with the US establishing a system of extreme economic competition via tax incentives both internally and internationally that has far-reaching effects across the global industry. These are felt by countries like the UK who attempt to employ protectionist policies to remain competitive within this system, but here with the additional constraints of EU membership and games' role as cultural objects. I argue that in this latter case, economic concerns dominate the policy discussion even when veiled as cultural debates, leading the construction of game players as beings of consumption to spread into all aspects of games policy.

Finally, even within the globalised games production network, there is a national component to audiences that is disavowed in favour of an emphasis on the global consumer. However, geographic barriers continue to control game distribution even in the digital distribution systems that presuppose this global market. Moreover, power relations concerning game distribution and the focus on the global consumer impact on the potential for domestically-produced games to contribute to national identity through addressing issues related to a specific national audience. These interactions between national actors in the global production network are just one specific case of the broader system of negotiations that occur between all institutional stakeholders on both the inter- and intranational scale, which form the focus of the following chapter.

Across all three aspects of the networked games industry, national differences between the UK and the US do have significant implications for how the playermaking process unfolds within each national context and on the shape of the players constructed by this process. However, the overarching emphasis on an explicitly neoliberal globalisation has privileged an emphasis on an idealised global consumer as the end goal for game creation across the network, which is shared by both British and American developers.

Chapter 8
Industry Negotiations

Introduction

Thus far, the depiction of playermaking that I have outlined has followed a fairly structured trajectory that could be seen to imply organisational stability in constructing digital game players. While the stages are certainly not discrete in practice, the logical progression arc from gathering information about players to translating that information into player images and then putting these images to work in design and production decisions suggests an ordered flow guided by rational decision-making and coherent strategy. Moreover, my discussion of this flow has focused on the conception of the audience as an institutional entity emerging out of the games industry's imperatives, leading to a rather linear, top-down narrative of playermaking.

The previous chapter looked at how playermaking occurs differently around the world, with power relations and competition governing the interactions between institutional stakeholders in different geographic regions. This and the following chapter extend this focus, seeking to complicate the playermaking process by emphasising the significance of negotiations and struggle. Even more so than the prior chapters, these complex negotiations defy discrete segmentation and occur throughout the processes of playermaking, merely appearing in their most visible forms once measurement has taken place and player images have circulated into broader discourses. If earlier chapters emphasised the digital games industry's attempts to establish greater levels of control over audiences and player behaviour, these two chapters underscore the chaotic nature of such attempts given the extremely capricious and risk-orientated nature of the marketplace for such a technologically focused medium and their inevitable futility in the face of players' unimaginably complex interactions with the medium.

Thus, this and the following chapter each look at one of the two main forms of negotiation in the digital games industry. This chapter retains the focus on industrial functioning, investigating the negotiations that occur within the industry itself in order to break down any assumptions of naturalised or completely rational institutional dominance. Here I emphasise that the digital games industry is itself an amalgamation of a variety of distinct yet interconnected sub-industries all vying for power and control in their own interests as related to audiences. Moreover, even these individual companies are composed of often vast numbers of individual workers who must negotiate their conceptions of players with one another on a daily basis in the course of doing their jobs. Consequently, this chapter argues that even internally, the institutional playermaking process is rife with power struggles and negotiations that both shape and reflect the conceptions of digital game players, while simultaneously reflecting the organisational structures out of which these conceptions emerge.

The second form of negotiation, to be discussed in the next chapter, is orientated externally and revolves around players, examining the struggles between the industry and people who actually play games in their social lives, as well as the negotiations over industrially-introduced notions of gaming audiences that take place within communities and cultures. This chapter will argue that negotiations between players and the industry over measurement systems, terminology and images ascribed to players, and issues of knowledge and control in playermaking cycle back into institutional processes, lending a more bottom-up or reciprocal view of playermaking that is not solely determined by the desires of industry or market.

Together, these two sections problematise playermaking by infusing the entire process with a recognition of the vastness of the number of implicated negotiating stakeholders (invested both financially and emotionally). Ultimately, this chapter argues for a view of playermaking based on discursive power relations and an emphasis on the complexities of the networked aspect of digital game production, with dominant institutional discourses emerging and circulating throughout culture but that are not created naturally or blindly accepted in the social realm. Instead, they are contested and negotiated amongst a variety

of stakeholders with both discursive and material impacts on identity, commerce, technology, and cultural expression.

These internal negotiations are further subdivided into three main threads representing the most significant areas of conflict over conceptions of game players with increasingly expanded foci. The first and most specific involves the negotiations between workers within a single company, arguing that on this scale, game development is actually defined by this active negotiation of individuals' conceptions and images of game players within production hierarchies. Moving more broadly, the second thread examines the extension of this hierarchical system to the institutional-organisational level as different stakeholder entities with differing structural imperatives negotiate the funding, production, distribution, and regulation of game titles. Finally, the third thread combines these two approaches to investigate the role that conceptions of players serve in struggles over workplace and institutional ideologies, specifically in periods of technological upheaval. Combined, these three threads argue that playermaking occurs within and moreover actively structures the digital games industry as a complex network of interwoven interests and stakeholders.

Game Development as "Negotiated Synthesis"

While images of digital game players are sources of conflict in a wide variety of venues in both games and broader cultural discourses, digital game development itself is deeply concerned with, and in many ways even defined by, these struggles over how different people perceive players. At a very basic level, struggles over audience images are an inevitable part of such a highly collaborative creation process. Robert Kapsis calls this the "audience conflict approach," (1986: 162) following earlier work by Herbert Gans. For Gans, film production defined by this struggle over audience images, arguing that

> "[t]he making of the picture itself can be viewed as a decision-making process. As each creator applies his audience image in the decisions that have to be made, he is 'representing' some of the publics who will eventually see the movie. The completed picture is a combination of the decisions made by its creators, and also a compromise or perhaps more correctly, a 'negotiated synthesis' of their individual audience images" (Gans, 1957: 318).

While Gans does not delve deeper into his choice of terminology, his invocation of "synthesis" indicates more than a mere addition of images but in fact a type of Hegelian dialectic in which the collision of competing images gives way to a new synthesised audience image that is greater than the two originals on their own. This synthesis would incorporate all relevant aspects of these initial images in one way or another (even if only as a marked disavowal), and the final media product would emerge as a confluence of this collision of audience images. However, this synthesis is not confined to Hegelian idealism, but when grounded within the digital games industry is much more effectively described by the Marxist materialist reevaluation of the dialectic. The colliding player images are not pure ideas, but constructions reflecting the material conditions of the stakeholders creating them, with the eventual outcome being a synthesised image rooted in economic power struggles.

Like film and other entertainment and communication media, digital games are in most cases a highly collaborative effort that may directly involve hundreds or even thousands of workers in production alone. As an example, for *Call of Duty: Modern Warfare 3* (2011), Activision enlisted over five hundred workers across five internal studios (Infinity Ward, Sledgehammer Games, Treyarch, Raven Software, Neversoft Entertainment) for actual game content alone (i.e. not including the extensive list of other internal and external production partners involved in areas like publishing, public relations, quality assurance, localisation, and so on) (see Takahashi, 2011a). There are vast numbers of decisions, decision-makers, and competing player images to serve as points of negotiation.

On such a large scale, and as seen in the previous chapter with global reach, the practical aspects of production almost always involve the emergence of a hierarchical system to combat the chaos of such a large set of competing images. These hierarchies privilege certain decision-makers, and thus images of audiences, over others in the streamlining of the production process. As Gans suggests, "[t]he portion of each creator's audience image that is most important in the making of the movie depends partially on the role he plays in the production process" (1957: 318). Moreover, in the pursuit of the most institutionally effective audience images, the most economically-positioned and fiscally-concerned

workers often hold positions of power. Gans states, “this synthesis takes place within a power structure, and the final decisions are often made by studio executives who point the compromise in a direction that seems to assure the largest box office...” (ibid.). The decision-making component of the playermaking process is not neutral or equally distributed among individuals, but rather reflects the economic and sociocultural structures guiding the organisation of workers in digital game institutions.

This organisation is very flexible in the digital games industry, as there are a wide range of possible arrangements of workers within a company, as well as heavy reliance on contingent and casual labour, contract and project work, and global and local outsourcing. The most common model follows Deuze, Martin, and Allen's observation that as game development teams have grown in size,

> “[a] strictly hierarchical structure has taken the place of individualistic entrepreneurs, with team leads determining and maintaining the integrity of the product’s vision. Team leads direct specialised departments that must meet individual goals of the project, such as programming, art, level design and product testing” (Deuze, Martin and Allen, 2007: 343).

Even on individual projects (of which there may be several concurrently in development at the same studio), the goals, motivations, and perceptions of audiences may vary greatly from team to team, but with individual team members' conceptions funnelled through the interpretative and communicative labour of the team leads (in both directions).

This hierarchical structuring extends to the management and executive level, where decision-making most explicitly rubs up against economic necessities and the guiding corporate imperatives and ideologies. For example, journalist Dean Takahashi's account of the first Xbox team's meeting with Microsoft head Bill Gates emphasises the encounter's high stakes, the extreme power of this near-mythical figurehead, and the significance of approval-winning, with Takahashi simultaneously describing it as “like Judgement Day” (ascribing to Gates the clout of a deity in determining the fate of the device) and a “beauty contest” (a more trivial and superficial, yet personal description) (2002: 102-112). Here, the power of (product) life or death is in the hands of a single person at the top of the

ladder, with his concerns largely focusing on economic viability, broad corporate strategy, and the reputations of the individuals leading the product teams (as depicted by Takahashi). Thus, the perceptions of players are filtered through a number of lenses, cast in economic or strategic terms, explicitly conceived with regard to institutional effectivity, and governed by the privileged perceptions of those hierarchically situated to exert the most influence.

Gans takes this even further, suggesting that not only is the act of decision-making dominated by those workers in positions of power, but that the actual conceptions of audiences held by different workers reflect the motivations underlying their individual jobs. Thus,

> "[t]he studio executives work intimately with financing, and their images are likely to seek out the largest number of people... The director and writer are probably able to give fullest rein to their audience images...The producer occupies the ambivalent position of the foreman, and his audience images must take into account the studio as profit-making institution, and his own image as creator." (Gans, 1957: 318).

This linkage of the shape of audience image with specific occupational roles makes sense on a practical level, as audience images not only need to be institutionally effective, but personally effective for the individual workers within these institutions in order for them to be able to be put to use in their day-to-day work. However, I would argue that it naturalises the connection between occupation and player image when a variety of other factors (such as sociocultural context, worker's "player" identity, and prior experience) severely complicate this relationship.

Even so, the inclusion of hierarchical positioning and occupational constraints or requirements into the construction, circulation, communication, and utilisation of player images is valuable in analysing player image synthesis. The edge case of digital games industry structure (at least on a large scale) is that of Valve Corporation, makers of blockbuster franchises including *Half-Life* (1998), *Left 4 Dead* (2008), *Portal* (2007), and *Team Fortress [Classic]* (1999) as well as the PC digital delivery platform Steam. The

company utilises a flat organisational system that explicitly resists hierarchy by removing job titles and bosses completely. Notably, the company's employee handbook (initially leaked onto the internet, now freely available from their website) discusses this approach to the workplace in terms of audiences:

> "A flat structure removes every organisational barrier between your work and the customer enjoying that work. Every company will tell you that 'the customer is boss,' but here that statement has weight. There's no red tape stopping you from figuring out for yourself what our customers want, and then giving it to them" (2012a: 4-6).

This model of workplace organisation connects player conceptions and knowledge with individual worker initiative and an ideological freedom of both labour and marketplace. At the same time, Valve acknowledges that "Structure Happens" in individual projects, naturalising the existence of structure as a concept but giving the constructive power here to the workers. As their company explains later in their handbook,

> "Often, someone will emerge as the "lead" for a project. This person's role is not a traditional managerial one. Most often, they're primarily a clearinghouse of information....Project teams often have an internal structure that forms temporarily to suit the group's needs...Valve is not averse to all organizational structure—it crops up in many forms all the time, temporarily." (2012a: 16)

For Valve, structure is an inevitable and productive part of the game development system, but the danger is that it may divert attention away from the player. The handbook continues:

> "...problems show up when hierarchy or codified divisions of labor either haven't been created by the group's members or when those structures persist for long periods of time. We believe those structures inevitably begin to serve their own needs rather than those of Valve's customers... Its members are also incented to engage in rent-seeking behaviors that take advantage of the power structure rather than focusing on simply delivering value to customers." (2012a: 16-17)

This example reinforces the point that even in extreme situations in which "no structure" seemingly exists, structure inevitably reappears and influences player image construction.

Ultimately then, I argue that the negotiated synthesis governing the playermaking process emerges out of the conditions of game production. The player images held by the vast number and diverse confluence of workers who all contribute to the creation of a digital game come together to structure the conceptions of players. This, however, is not a smooth or natural process, but a series of collisions and struggles taking place within institutional hierarchies and are reflective of both discrete production realities and organisational structures. The processes of playermaking and their outcomes provide an entry point into more fully understanding the complexities of these institutional power structures while also being deeply embedded in them. These complexities, however, are not restricted to the internal functioning of individual companies, but only become even more dramatic when expanded to consider the interconnections between various companies on the industrial level.

Institutional/Organisational Struggles

Hierarchical structures not only underlie the internal functioning of individual game development companies, however, but play a role in the complex power dynamics organising the various sectors and stakeholders involved in the digital games industry as a whole. Like most of today's other media formats, this industry involves highly collaborative production processes not only on the worker level but entangling a wide range of companies with disparate motivations and imperatives in the creation of a single product. Moreover, these macro-level relationships incorporate even the smallest independent digital game developers comprised of only one or a few people who, while not dealing with significant internal hierarchies, must work within the constraints of the broader industrial structures. This section will look at the relationships surrounding player images with regard to developers, publishers, platform holders, and retailers, as well as the factors currently complicating these discrete categorisations.

As described in chapter two, there are many different types of companies involved in the creation and distribution of a digital game, most notably developers, publishers, platform holders, and retailers. These different company types are primarily defined by the tasks

they perform in producing and/or distributing a game and all define players in ways that reflect these tasks. However, these entities must interact with one another along the production chain and therefore negotiate both their industrial roles and perceptions of players throughout this process. These interactions reflect the power relations structuring the digital games industry and likewise impact on the ways that different player images are emphasised or marginalised by different stakeholders at different points in the chain.

For game developers, while economic and macro-level production considerations are a constant pressure, the focus is ostensibly on creating the game itself. Fullerton, Swain, and Thompson argue in their design textbook that "[a]s a game designer, a large part of your role is to keep your concentration focused on the player experience and not allow yourself to be distracted by the other concerns of production" (2004: 2). This focus on content creation leads to a player image that, regardless of internal struggles, is conceptualised primarily based on the needs of development, which then must be justified and negotiated with other industry segments involved with the product at other points in the production pipeline.

This is most evident when the game leaves the “creative” realm of the development studio and passes into the “economic” realm of the publisher. As Aphra Kerr suggests,

> “[d]esign in the digital games industry is a highly networked activity and although some of this networking involves testing via end users much of it involves negotiating between the goals and indirect user representations of the design team and the goals and indirect user representations of their funders” (2002: 19).

I will return to these types of negotiations between the creative and commercial aspects of the digital games industry later in this chapter.

As in Herbert Gans' implication that occupational necessities and job roles guide individuals' audience conceptions, the publisher holds a similar role to the film producer in having to navigate the complex task of bringing a creative product to market that has been created by a separate studio. While developers may hold assumptions about what type of

people will eventually play their games, judging the economic viability of the project falls much more to the publishers who must translate the developers' player images into ones tailored for the marketplace. This involves altering these conceptions to become institutionally effective with regard to advertisers, retailers, investors, and journalists.

Much of this work involves managing, manipulating, and measuring expectations (both culturally and economically) to determine the proper level of continued publisher investment, providing market-based feedback to the development studio, or in more extreme cases extending production of a title beyond its original timeframe/scale or even ceasing production altogether. Mark Deuze describes this publisher/developer relationship as one of "contested dependency" in which contracts and arrangements are highly contingent and liquid, liable to change at a moment's notice as companies continually reevaluate and restructure their organisational approaches to game production (Deuze, 2007: 212).

These seemingly economically-derived decisions almost always revolve around player images, with the publisher determining that the type or number of players conceptualised by the developer are not lining up to the expectations of one or more of the other institutional stakeholders, which become increasingly economic as the chain moves closer to the point of sale. However, it is crucial to recognise that this all occurs at a distance, because especially when working with third-parties, publishers cannot directly alter game content, which falls to the developers' interpretations of publisher feedback. From the other end, developers must contest the decisions of the publisher, either working with them to more fully articulate their conceptions of the players of their games or to alter the conceptions guiding development to reflect the findings and needs of the publisher without compromising or overly complicating the development process.

Publishers also have to interface with platform holders in attempting to place their products on the devices and services used by consumers. Platform holders serve as the gatekeepers to the content appearing on their systems, so there is also a heavy emphasis on quality control, both with regard to content and ideology. Platform holders require titles published on their platforms to go through a certification process that ensures all games will work

properly on their systems, checking for technical flaws, potential security exploits, and proper system-level function integration. However, this simultaneously involves an ideological examination of the product to ensure that the title fits within the cultural guidelines and corporate imperatives underlying the platform itself.

Therefore, platform holders have the ability to standardise both the technical and content dimensions of games to ensure they conform to their own conception of what players desire or expect from the platform. This is most visible at edge cases, such as game-breaking bugs and obscene content, but the mere existence of these gatekeeping controls serves as an already present chilling effect while documented requirements structure developer designs and publisher expectations from the outset. Moreover, it places the power of ideological control in the hands of platform holders who can block content that challenges or questions the platform holders or those with aligned interests (see Williams, 2012).

This quality control system is further regulated by economic constraints, with the platform holders charging developers or publishers a certification fee, with individual game updates (e.g. post-release patches or downloadable content) by some accounts costing upwards of US $40,000 on Microsoft's platforms. This high economic cost ensures that developers will closely abide by and develop towards the platform holder's certification requirements. In the post-release timeframe, it favours larger and more commercially successful companies who are able and willing to pay for numerous patches while disproportionately affecting developers working on a smaller scale. This, along with the often lengthy turnaround time for certification, the cost of development kits, and minimum sales thresholds have led to a number of public conflicts over the cost of patch certification especially from small or independent developers (see Cook, 2012; Caoili and Rose, 2012; Staff and Carless, 2009).

The case of *Fez* (2012) is instructive here. Developed by the independent Polytron Corporation (consisting of only two full-time employees) and published by Microsoft, the title was released on the digital Xbox Live Arcade marketplace to wide critical acclaim and substantial sales numbers. However, when Polytron discovered a game-breaking bug that happened to affect only the most dedicated players, they were unable to come to an

agreement with Microsoft about reducing the patch costs. Ultimately, Polytron determined that it was not in their financial interest to pay for the patch and left the game untouched, predictably upsetting the small portion of their fanbase affected by the bug, then publicly denounced Microsoft's policies on the official Polytron website (see Kuchera, 2012b).

This example demonstrates one of the ways that different stakeholders within the industry, even those whose interests are seemingly aligned, may come into serious conflict over company policy, economic gain, ideology, and industrial status in a way that emerges out of and ultimately impacts on the player. For the platform holder, however, it is the health of the platform as a whole and their conception of how players engage with that platform that override any individual arrangement or title. As a powerfully situated gatekeeper, platform holders are thus able to leverage their position between developers/publishers and consumers to enforce their perceptions of players onto those providing products for their platforms, which results in constrained possibilities for players.

Once publishers have coordinated with the platform holders, they must finally negotiate with retailers to physically or digitally distribute their titles to actual players. Particularly in the physical realm, publishers must compete with one another for highly coveted shelf space, prime product release dates in a crowded holiday calendar, and advertising presence and promotional pushes at the point of sale. Moreover, publishers and retailers enter into direct economic relationships, with publishers selling products to retailers with the assumption that it will eventually sell to players. When this doesn't happen due to poor reception or overly optimistic expectations, retailers may try to return this stock to publishers and force them to buy it back, which can quickly become contentious.

In terms of players, then, retailers serve as a paradoxical endpoint in the production chain. Entering the equation almost exclusively after the actual creation of the product, retailers primarily construct players by their actions in the marketplace due to interactions occurring at the point of sale. However, retailers have the greatest degree of direct contact with the people who play games of any industrial stakeholder, leading to a recognition of the human element of gameplay but viewed within the arena of economic exchange.

Shifting Industrial Relationships

In the past few years, these traditional relationships between developers, publishers, retailers, and platform holders have become increasingly complex, disrupted by new technologies, industrial shifts, and changes in audience behaviour. Digital distribution, new models of consumer monetisation, the shift from a product to a service model, changes in funding structures, and both consolidation and fragmentation of platforms are all key components of this new industrial landscape. In all of these cases, perceptions of players form the basis of the negotiations guiding these industrial shifts.

Retailers have not only had to contend with business going online, but with products themselves becoming digital and thus digitally distributed. This has disrupted the need for many traditional retailers, some of whom have responded by beginning to digitally deliver content rather than shipping out physical goods in certain cases. On consoles and mobile phones these digital delivery services are typically owned and operated by the platform holders, deepening their levels of control, while on the PC this has been dominated by developer Valve's Steam. More recently, however, other publishers have entered the fray, most notably Electronic Arts' Origin and Square Enix's experimental Core Online, as well as other independent digital distribution platforms/retailers like GOG, Desura, and GamersGate.

This shift away from physical retail has required retailers to take radical action in their negotiations with publishers and their conceptualisations of their consumers. For example, the United States' dominant dedicated games retailer Gamestop acquired an existing digital distribution system, Impulse (now rebranded as the Gamestop App), to try to gain a foothold in the online space. However, this led to conflicts with publishers who were including digital codes for rival services packed with their games inside the physical boxes. One particularly high profile controversy broke out over the release of *Deus Ex: Human Revolution* (2011), when GameStop instructed workers to open new game boxes, remove codes for the game's redemption on rival OnLive's digital game streaming platform, and then reseal the game for sale to consumers as a “new” product. GameStop representatives justified the move by stating, “We pulled the coupons because, like all retailers, we prefer

not to promote our competitors and their competing offerings and services in our stores" (Orland, 2011b).

While indicative of the complications of gauging the appropriate approach to competition between physical and online retailers, this incident brought the struggles between stakeholders vying for control of this space in the midst of major transformations out from behind the scenes and into the consumer realm. GameStop ended up publicly apologising for their anti-consumer response to an industrial quarrel, saying, "We regret the events surrounding this title release and that our customers were put in the middle of this issue between GameStop and Square Enix, the publisher of this game. And for this, we are truly sorry" (Conditt, 2011). This is one example that raises questions about how retailers in today's changing landscape are reevaluating their conceptions of players to determine what services and benefits they offer in terms of physical or digital retail as consumers simultaneously navigate between the physical and digital worlds, comparing retail in both areas directly while acknowledging the specificities of each.

However, retailers may be left out of the equation altogether with increasing levels of direct sales, especially from the aforementioned publisher-run digital marketplaces/platforms. Furthermore, the decentralised nature of the internet allows independent developers to sell titles directly to consumers via their websites, not only bypassing the middlemen of retailers but also circumventing publishers in order to maximise profits and cultivate a more closely connected player community. Independent UK studio Introversion recently made over US $100,000 in less than three days from players funding the still in-development *Prison Architect* ([initial alpha release] 2012), leading co-founder Mark Morris to tell journalists: "I think publishers add value for triple-A titles, but that's it... At the small and medium level, there is absolutely no benefit from working with a publisher" (Rose, 2012c).

However, this shifts more of the commercial aspects of game development, which have typically been the task of publishers, onto the developers, requiring them to begin to conceptualise their audiences with the market in mind. This changing position of game

publishers does not eliminate their approaches to player conceptualisation, but rather redistributes it to other affected institutional stakeholders.

Pre-purchase options like that offered by Introversion are increasingly wrapped up in another major shift in the audience's relationship with games: crowdfunding. In the United States, Kickstarter has emerged as the premiere crowdfunding platform for a wide variety of services and products, but has been dominated by games. The Kickstarter campaign for *Double Fine Adventure* served as a watershed moment for funding on the service, raising almost three and a half million dollars from consumer donations and significantly raising the potential scope of projects found on the service (Kickstarter, 2012a, web). The campaign for the OUYA console likewise proved the service's relevance for hardware funding (Kickstarter, 2012b, web). As of 17 October 2012, six of the service's top ten highest funded projects in general are for digital games, with two others for digital game hardware. There are also several game-specific crowdfunding services like Gambitious and Gamesplanet Lab that work on a smaller scale. While crowdfunding has faced some regulatory stumbling blocks in the UK until recently, lobbying by UKIE and others has led to broader acknowledgement of crowdfunding models and the recent arrival of Kickstarter in the UK.

As a disruptor to traditional funding models, Kickstarter does not entirely circumvent existing systems but merely alters them. Traditional publishers are figuring out ways to engage with crowdfunding models on their own, with some attempting to insidiously exploit the benefits of the system (Chapple, 2012) while others adopt these models to their own existing pre-order strategies (Caoili, 2012a) or offer incentives for those working without publishers (Caoili, 2012b). Moreover, in some cases crowdfunding is only part of a broader fundraising plan that includes traditional funding or publishing arrangements with publishers, platform holders, or venture capitalists, such as in the cases of *Star Citizen* (Yin-Poole, 2012b) and *Sportsfriends* (Shuman, 2012, blog post).

Crowdfunding does not just impact on industrial stakeholders, but offers players the chance to “Be your own game producer” (Crecente, 2011a). Not only serving as funders, the people participating in Kickstarter and other crowdfunding services are increasingly

taking on other roles traditionally handled by publishers. As developer Ste Pickford told journalists, the process of promoting a game to crowdfunders is "not so different to pitching to publishers" (Andrew, 2012), with developers still needing to come up with a solid business plan, development timeframe, concept art, promotional videos, etc. that they would require when meeting with publishers. Ultimately the process is remarkably the same, it is merely the audience for these presentations that is different.

In a similar vein, Valve's "Steam Greenlight" service appropriates industrial terminology to describe their method of crowdsourcing the approval process for games that will eventually appear on the platform. Like with crowdfunding services, Steam Greenlight connects developers and players through formerly institutional tasks. For both funding and approval, developers must now appeal directly to the desires of players, while also managing their expectations and the liability for failure directly. While in traditional relationships publishers manage the bulk of the financial risk of a project, here developers take on sole accountability for any player dissatisfaction or complications in the production process. While publishers are well aware of these risks, consumers may not be, which concerns people like Steve Ellis of Crash Labs who expressed his concern in a published interview, saying "Essentially, Kickstarter is asking people who don't understand the risks and challenges of the industry to fund it" (Rogers, 2012).

Likewise, in my interviews developers were interested yet unsure about these new funding opportunities, with Caspian Prince for example stating,

> "I'm very wary of having a load of people's money pledged on a project that may never see the light of day – this is a problem we have. Our games so radically change during development that what comes out at the other end may bear absolutely no resemblance to what we started out trying to make." (Prince, interview, 2012)

In this situation, the developer either runs the risk of either missing consumer expectations when the design changes during development, or feeling constrained creatively to deliver the initially-pitched product even when the end product would be better served by making alterations. Moreover, while interviewee Andrew Smith was interested and actively

experimenting with crowdfunding opportunities, he came back to the issue of platform, arguing that

> "For mobile games it doesn't really suit very well. I think it's best done on the platform that the fundraising is achieved, so that's PC and Mac, and I think most games that have been successful bear that out" (Smith, interview, 2012).

Smith pointed towards the difficulties of maintaining smooth ease of contact between funding and eventual product delivery due to the platform middlemen and marketplaces on mobile devices, suggesting that crowdfunding will only continue to reflect and reinforce the platform distinctions that developers already have embedded into their conceptions of audiences.

At the same time, players may be using services like Kickstarter to reinforce their comfortable established roles in the production process, with games scholar and developer Ian Bogost suggesting that for many people it is simply a form of entertainment akin to a reality show (2012) while on a more pedantic level, the service has evolved into a rather predictable tiered pre-order system that from a consumer point of view fills the function of a digital retailer of upcoming products.

The shifts to digital distribution, pre-release funding, and alpha releases have also altered production workflows, with milestones no longer having to all lead up to a physical product release with its constraints of manufacturing. This has involved a transition from product models to service models, which radically alters the position of players in the equation. No longer merely "customers" making a one time purchase, players are entering into long term relationships with game developers and publishers in which the latter two are consistently called upon to evolve, adapt, and respond to the desires of the former.

Centrally located within this service mentality is the rising "free-to-play" business model, which substantially rewrites the value proposition for consumers and rejects the very notion of a retailer altogether. While "free-to-play" may at first glance seem to imply a marginalising of consumerist rhetoric, the language commonly used to describe players

with regard to these and other social games is still rooted in capitalist accumulation, constructing players as objects that can be “acquired,” “retained,” and “monetised.” Beyond terminology, this service relationship now means that developers are much more readily aware of the economic activity of their products while publishers are able to blur the lines between product changes and content changes.

Finally, developers, publishers and retailers have all had to contend with the emergence of new and unexpected gaming platforms that bring about unexpected challenges in relating to consumers. In a general sense, we can categorise these new platforms as “social” and “mobile” although even these terms are admittedly problematic. Here, the former refers to social networks, while the latter indicates mobile phone hardware, most notably the iOS App Store and the Android based Google Play. These two mobile platforms offer directly contrasting visions of the digital marketplace, with the former a walled-garden of institutional and ideological control while the latter is based on open source principles and thus more welcoming to diverse forms of content and business models, but also more susceptible to hacking and subterfuge.

In both cases, however, these mobile platforms leverage the strengths of play context. With regard to hardware, they acknowledge the physical and location-based context of game play (through features like touchscreens and GPS integration), while utilising phone-essential connectivity as a conduit to the internet. The titles on these platforms are also typically based on short bursts of simple gameplay, ideal for the situations in which a person may have their phone on the bus or while waiting in line, which indicates a recognition on the part of developers of the sociocultural contexts and the lives of players outside of the game world in a much more varied and sophisticated way than devices that presume a player's extended full attention or stationary existence in a living room.

However, these platforms should not be touted as replacing existing platforms, but rather working in conjunction with them. Moreover, they still reproduce many of the standard approaches to gaming audiences even when it may seem to propose the exact opposite. For example, social and mobile games require a much lower cost of investment (especially up-front), thus opening the door for both independent developers with lower levels of funding

and appeals to more niche audiences since the number of purchases required to recoup investment is far lower. However, over time these platforms have become increasingly colonised by large developers and publishers, many expanding from the console or PC space, who have increased production values, raised the marketing budgets necessary to stand out in a crowded marketplace, and driven down prices. In the latter's race to the bottom price of “free,” independent companies have struggled to make back even their relatively lower levels of initial investment, especially in cases where they did not have the resources to properly investigate and test the intricate monetisation strategies needed to fully exploit the “free-to-play” model (e.g. Webster, 2012; Kucher, 2012a; Jan, 2012).

Clearly, the systems of relationships between developers, publishers, platform holders, and retailers have been strained in recent years, with these upheavals leading to even more intense negotiations between industrial stakeholders. While economic realities may drive many of the most contentious power struggles, divergent conceptions of players underlie the entirety of this institutionally-aligned formation of Gans' negotiated synthesis. In some cases this has transformed the way that a specific industrial stakeholder conceptualises players, while in others it has only deepened existing player constructions.

Across sectors, though, rather than precipitating the disappearance of any specific industrial sector, we are seeing the tasks and functions that previously existed in fairly rigid structures become duplicated and transposed onto other stakeholders. Retailers are trying to push into the realm of platform holders, publishers and developers are rapidly moving into the sales business, players are becoming more deeply involved in the actual development of games, and many of the organisational tasks previously held by publishers are now being undertaken by developers and players. This newly complex system is less fleeting than before, with players entering into long-term service-based relationships with the industry as opposed to earlier models in which the transaction was complete after the point-of-sale, but simultaneously more chaotic, unpredictable, and contingent as industrial entities and actual game players struggle with synthesising images of players as their production processes converge.

Networks of Conflict

The final aspect of internal institutional negotiation are ideological conflicts that occur both within and between companies in the games industry. For my purposes here, I'll focus on just one especially significant example of these ideological conflicts: that between “creativity” and “commercialism” as related to the measurement technologies outlined in chapter five.

In an industry as technology-driven as that of digital games, playermaking not only involves people and companies, but also a wide range of technological actors that are deeply embedded in the production process. While not emerging naturally or determining the course of the industry's progress alone, in conjunction with industry labourers these technologies alter the shape that game work takes, help collect and interpret the data that informs conceptions of players held by both labourers and broader institutional entities, and structure negotiations between diverse industry stakeholders.

Drawing upon work on the sociology of technology, here I argue that the digital games industry conforms to what Michel Callon calls a “techno-economic network” in which the three poles of scientific, technical, and market actors are interwoven and drawn into relationships with one another not just by human action, but by various “things” and “intermediaries” (1991: 133-134). The measurement technologies utilised by the digital games industry are a clear vision of this, bringing together quantitative analysis, new technological developments in user connectivity and tracking, and an emphasis on the economic value of the data extracted from such systems. The adoption of such systems by industrial organisations, however, have an immediate impact on both the emerging workers utilising them and those labourers whose existing job functions are altered by them.

Nick Dyer-Witheford's autonomist Marxist approach casts this relationship between workers and new technologies in terms of labour power. As an explicitly capitalist enterprise, work in the games industry is defined by, in Dyer-Witheford's terms, “a collision between two opposing vectors – capital's exploitation of labor and workers' resistance to that exploitation.” In this reading, technology is a “weapon” wielded by

capital to assert institutional control. However, in line with the Marxist focus on class struggle, labourers can either "resist" or "reappropriate" these weapons, reconceptualising the societal-technological relationship through continual cycles of conflict (1999: 69-72). A medium like digital games that is centred on technology thus offers an especially tumultuous form of labour, where struggles over exploitation and resistance occur constantly.

However, it is worth stressing that these clashes between individual creative and broader business interests are in no way unique to digital games, but present in every creative industry. Muriel Cantor, for example, found in her interviews with television professionals that "[television] network control was a basic problem for the producer" that functioned in a very different way from internal working disputes like those described in the first section of this chapter. Cantor suggests, "The latter is basically a labor dispute concerning economic rewards (residuals), but conflicts with networks, when they occur, concern artistic values; they are disputes over creative control of ideas. Of course, these conflicts also become economic in their consequences..." (1971: 122-123).

Similar depictions are readily found elsewhere with regard to television (Scott, 1995; Keyton and Smith, 2006) as well as in film (Petrie, 1991; Mann, 2008; Adler, 2004), music (Negus, 1995; Glynn, 2006), and journalism (Eckman and Lindlof, 2003; Hesmondhalgh and Baker, 2011). This is relevant even beyond institutions revolving around media, with Philip Napoli citing Jackson and Dutton's conception of a "threat bias" (1988) to stress that in all types of organisations, "it is more likely that new technologies will be perceived in terms of the potential harms they may cause than in terms of the potential benefits they may provide" (Napoli, 2011: 120).

Juliet Webster argues that worker resistance to these perceived harms is not directed at the technologies themselves, but the "manufacturing programmes" embedded in them that influence labour organisation and institutional ideologies. The industrial incorporation of new technologies is a layered affair in which technologies "represent an extension of existing production methods and an exhortation – a prescriptive programme – for new methods," with the outcome ultimately merging the two. In this view, "Technologies can

therefore be seen as hierarchies of work systems and power relations, and at all levels actual as well as aspired for relations are expressed within them" (Webster, 1991: 217). In terms of games measurement, then, worker concern lies not with the technologies themselves but with the perceived "prescriptive programme" of a style of game design driven primarily by data.

As discussed in Chapter Five, while a company like Valve may have seemingly been able to deeply integrate data into its organisational functioning without obliterating "creative" aspects of game work, large portions of the digital game industry have instead exhibited the attachment to the status quo described by Napoli. This typically either takes the shape of a reification of traditional audience models (based on intuition and personal experience) or an explicitly hostile rejection of these new metric-based approaches to game development.

In our interview, Chris Wright boiled this resistance to metrics from design teams down to a refusal to recognise the industrial shift into a service model, instead choosing to continue to view the industry through a Romantic conception of the game design process that is hostile to any encroachment of crass commercialism that would sully their artistic creations (Wright, interview, 2011). However, the network analysis at the start of this section and Dyer-Witheford's arguments suggest that rather than technological anxiety, this is actually symptomatic of broader worker concerns over the general impact these technologies are having on their level of control over the labour process.

Ultimately, games are most certainly creative endeavours as well as commercial products that involve negotiations between stakeholders with different visions of their work. However, as discussed in Chapter Six, the digital games industry specifically invokes ideological discourses of work as play to suggest that the development of games is a liberating and creative undertaking. While this is primarily an attempt to assert ideological control over workers, it also delays progress by disavowing the commercial realities of the medium in favour of valorising the existing desire for creativity in game labour. New technologies enable greater enforcement of institutional control and advance business interests, yet simultaneously enable new forms of worker creativity and provide workers

with useful information about their assumed players. The more general struggles over player images are merely brought to the forefront when new technologies necessitate direct decisionmaking over how to quantify, value and operationalise these images for use by workers and stakeholders across the industry.

Conclusion

This chapter investigated one portion of the final stage of the playermaking process to see how playermaking is negotiated within and between industrial stakeholders. Rather than presume a natural or rational progression, this chapter argues that the digital games industry is a complex and contingent system. It is composed of individual workers with disparate views of how to approach audiences and companies with competing and often opposing institutional imperatives. Playermaking, then, is a process involving a wide variety of industrial stakeholders, any of whom may either contest or support proposed player images, often coming to a head surrounding the resistance to or adoption of new technologies. These stakeholders engage in constant negotiations within institutional power structures, with the playermaking process simultaneously reflecting and transforming the functioning of the industrial game production system as a whole. As we'll see in the following chapter, these images go on to be circulated in a range of wider cultural discourses, with implications that stretch far beyond the relevance of the digital games industry as they are negotiated with actual players, but always already positioned within both institutional and sociocultural contexts.

Chapter 9
Actual Player Negotiations

Introduction

In the previous chapter, I highlighted the complexity of the industrial process of game production by outlining a number of areas of negotiation and conflict between industry stakeholders at the individual, organisational, and ideological levels. However, this still largely left the institutional player conceptualisation process as a top-down affair without considering the involvement of actual game players. This chapter, then, addresses this concern by looking at how the industry negotiates player conceptions with the actual people who play games, incorporating a bottom-up viewpoint that further complicates the industrial playermaking process.

While playermaking is a discursive process resulting in a vaguely identified space where audiences exist as institutional constructs, it does have material effects. These effects are not necessarily predictable or restrained within industrial control, but instead involve a type of Gramscian hegemonic negotiation. Ettema and Whitney claim that "[a]ctual receivers are not powerless but...they wield influence within the institution only when they have been constituted as some effective audience such as an identifiable and desirable market segment" (Ettema and Whitney, 1994: 11). Though the playermaking process certainly excludes many actual participants and leaves the powers of interpellation to the discretion of media institutions, this exercising of institutional power simultaneously disperses power and allows game players entry into the otherwise often obfuscating games industry. Media viewers are only ever completely powerless as part of the vast unknowable speculated viewers, but once defined gain currency within institutional functioning.

The industry's attempts to control audience behaviour (most obviously, spending money) requires what Gramsci describes as the gaining of consent, whereby players submit to this audience conceptualisation because there is some sort of evident benefit (Gramsci, 1971).

Audience conceptualisation is thus a site of constant negotiation between the industry and game players, where constructed audiences become both industrially effective and beneficial to actual players. While my emphasis throughout this thesis is squarely on a symbolic audience constructed by institutional discourses, this chapter brings in those people who actually play games, not to suggest any correlation between these individuals and constructed audiences but to acknowledge their roles in contributing to and complicating institutional playermaking. As a point of clarification then, throughout this chapter I will be using the term "actual players" to refer to individuals who play games as distinct from the discursively constructed players that result from institutional playermaking processes.

This chapter investigates three aspects of these industry-actual player negotiations that loosely conform to the stages of playermaking: struggles over player measurement, conflicts between actual players and the industry (and between actual player segments) over the terminology and ideology behind institutionally-constructed images, and negotiations over control and knowledge between industry and players concerning the playermaking process itself.

Negotiating Player Measurement

As described in Chapter Five, the playermaking process is underlined by systems of measurement and information gathering. These measurement systems are increasingly fragmented, technologised, and motivated by ambitions of complete control, requiring ever-more immense amounts of data to advance towards these ambitions. The problematic operationalisation of this data, however, only deepens the reality that such absolute understanding of the vast and complex social actions of actual players cannot be adequately quantified, leaving the pursuit of full industrial control over user actions a distant dream obscured by the chaos and unpredictability of human behaviour.

That discussion of player measurement from the industrial perspective largely avoided any consideration of actual players' responses to such systems, instead focusing on the institutional, organisational, and occupational implications of these trends in measurement

systems. This section returns to these same issues, but from the perspective of those people being measured rather than those doing the measuring. Actual players of games are certainly not oblivious to the surveillance systems installed to monitor their every action. Instead, they actively engage with these systems by openly contributing data in return for presumed benefits, repurposing measurement systems for their own means, or by rejecting and criticising these systems in both word and action.

Regardless of the specific situation, these various responses to player measurement systems serve to illustrate that actual players play a significant role in this aspect of playermaking despite institutional attempts at control or exploitation. Though the expansion of such highly technologised systems of surveillance may inspire continued concern over their implications, actual players directly contribute to the shape of such systems, reconfigure and repurpose the systems that are already in place to more closely conform to their own desires, and reject those that most blatantly conflict with their interests. While the measurement systems installed in service of the processes of playermaking may on the surface appear driven by institutional imperatives to the detriment of the desires of actual players, once put into motion these systems transfer some amount of institutional control to players to determine which systems survive and in what form.

Positive Engagement

If the institutional motivation for increasingly sophisticated systems of player measurement – absolute control over consumer actions – is unpalatable to actual players, in order to be accepted by the public these systems must be framed in a way that does not appear quite so sinister. In their enacted form, these measurement systems frequently are positioned as offering a direct benefit to actual players. The most common sense benefit is that such monitoring is a necessary trade-off required in order to make "better" games that will then presumably be more enjoyable for players. This logic offers a powerful symbolic argument that can justify nearly any amount of extreme industrial surveillance, yet the more restrained form of enacted measurement systems (and the consumer rejection of the most intrusive forms of surveillance) suggest that such an argument has a limit. In reality, actual

players recognise the potential for exploitation of this line of thinking and expect accountability when contributing their data, raising expectations for the eventual product. Similarly, this makes the question of how this data is used, and to what type of player the end game is shaped (a "better" game for whom?) that much more significant to actual players.

This emphasis on expectations extends to the changing roles of actual players in the production process in a media culture as defined by convergence. As the lines between consumers and producers increasingly blur, not only are game developers relying more heavily on consumers for labour outsourcing, but actual players are demanding greater amounts of input and direct involvement in the creation of games. While this can take many forms, measurement systems provide producers with a way to quantifiably demonstrate to their playerbase that the actions of actual players are being noticed, taken into consideration, and ultimately contributing to the way a game is developed or evolves post-launch. Though this may satisfy a convergent consumer desire to contribute to game production, it also offers developers a way to inflate the perceived level of actual player involvement through data.

The use of industrial measurement systems that openly tout the value of player measurement information simultaneously indicate to actual players that their actions hold value, and could be shared with them instead of hoarded by institutional interests. Rather than suffice with a vague promise of eventual value transferred to players in the form of "better" games, players increasingly demand more explicit rewards for the contribution of their data to the systems of measurement involved in playermaking.

One of the most common forms of engaging actual players in measurement systems is through the use of "beta" or "alpha testing," which was mentioned by several industry interviewees when asked how they interact with actual players during the production process. While the testing of games in these pre-release stages of development traditionally was performed by hired quality assurance departments (and still is to some extent), increasingly companies are outsourcing this labour to the general public.

While developers and publishers are now heavily reliant on beta tests in order to test their games in large scale environments, the actual "work" that is being done by players is often limited to simply playing the game and submitting to extensive data tracking. However, the "rewards" for betas range from in-game items when the game is finally released to the feeling of distinction for being selected to test the game to gaining access to content before it has hit the marketplace.

Twisted Pixel's Jay Stuckwisch told me that they "try to offer a lot of rewards in our titles," with the company even going as far as recruiting fans to appear in filmed segments within their games (Stuckwisch, interview, 2011). Regardless, in almost every case the "reward" is never monetary, a differentiating factor left intact to maintain a distinction between institutional workers and player labourers.

Theorycrafting and Repurposing Measurement

At the same time that the industry is courting actual players with ways of making measurement systems seem both appealing and rewarding, actual players are also pushing back against existing systems created to serve institutional imperatives, reconfiguring and repurposing these modes of measurement to serve the desires of actual players. The core issue here is one of intentionality, with systems intended by the games industry to serve a specific purpose being used for unexpected or even undesirable (from the industry's perspective) alternative purposes. In terms of playermaking, this shift has severe implications. If the main purpose underlying industrial intentionality here is to create players that are institutionally effective and wholly controlled, the altering of these systems in service of sociocultural goals results in players perceived as wholly out of control and institutionally ineffective. While the industry attempts to respect the desires of players in offering some element of control, this is an extremely fine line blurring the discursive distinction between exceptionally highly engaged consumers and hackers/cheaters.

One version of this reconfiguration of measurement data was discussed in chapter five, where both industry and actual players use released data in order to provide additional entertainment value, motivation for further play, identity formation and community

development. While this phenomenon allows players to interpret and utilise data for player-driven purposes, it is largely industry-sanctioned and reliant on the data that game companies choose to release, thus enabling the industry to retain much of the power in this relationship. However, when users either begin gathering their own data (outwith that explicitly industrially sanctioned) or use available data for unexpected purposes, then the industry is quick to demonise these very similar actions. And similar to that of the industry, actual player measurement is again highly technologised, fragmented, and concerned with issues of control.

The practice of "theorycrafting," or the usage of mathematical models to analyse and exploit the systems underlying games, is one way that actual players leverage technological systems, quantitative analysis, and community collaboration in order to more deeply understand how a game works for player benefit. Christopher Paul describes theorycrafting in *World of Warcraft* (2004) as a practice emerging not only out of gamer desire to maximise fun and performance in game, but drawing from broader sociocultural interest in statistical measurement in areas like economics and sports. Previously a marginal activity, efforts to more fully understand the systems behind a game, especially for those actual players attempting particularly high-level play, are becoming increasingly widespread (Paul, 2011).

In terms of technology, theorycrafting often relies on the use of common player-driven internet communication systems, collaborative resource nodes like wikis, and most controversially, user-created pieces of programming called "macros" that automate certain mundane tasks. Macros, mods (modifications), and add-ons are frequently allowed and even encouraged by game developers as a way to allow actual players to engage with a game in their own desired way. However, they are always subject to major conditions and controlled closely. For these types of content (and theorycrafting in general), actual players are only able to access a certain amount of information and specific functions in the game code that, from the start, allow the developers to limit the extent of such efforts at deeply understanding and exploiting the intended gameplay experience.

Moreover, even when promoted, developers constrain user creations through the use of official policies that determine acceptable player intentions. For *World of Warcraft*, developer Blizzard requires that add-ons, for example, are not be used for commercial gain, any code must be transparent, they may be disabled by Blizzard for any reason, and they fall under other regulatory systems of control like the game's official rating, terms of use, and end user license agreement (see Nethaera, 2010, forum post). Moreover, one of the game's many post-release patches (updates to a game usually intended to fix bugs or add features and content) moved all macros onto Blizzard's own servers. This was framed by the developers as a way to eliminate "a need to reconfigure them when logging in using another computer," a player benefit that recognises how actual players engage with their product across multiple devices, yet with the added developer benefit of increased industrial control (Blizzard Entertainment, 2008, web). This indicates that although theorycrafting may be an effort on the part of actual players to improve their own play experience, the games industry still attempts to control the shape of these efforts even when broadly sanctioning them.

Reasons for this type of institutional sanctioning are many, including the protection of industrial trade secrets like the code and systems underlying how a product functions. Karin Wenz (2013) depicts theorycrafting as an attempt at a type of "reverse engineering," which is a term immediately threatening to those developers invested in concealing the mechanisms behind their software. With regard to Ien Ang's Foucauldian "regime of truth," theorycrafting also offers a threat to existing power relations and systems of control via scientific methods when these methods are put into action from the bottom-up rather than the top-down. While Wenz notes this desire on the part of actual players for increased control over gameplay through the accumulation and circulation of scientific knowledge, she also emphasises the potential for these seemingly empowering systems to be co-opted in service of even greater levels of surveillance (Wenz, 2013).

Resituating Players

With regard to playermaking, both the industry and actual players hold contradictory views towards these actively restructuring players. When seen as going too far, these players are

constructed in a negative, othered fashion. T.L. Taylor coined the term “power gamers” to describe these types of players, clearly delineating them from other more ordinary game players. Taylor juxtaposes perceptions of power gamers against those of role players, arguing that power gamers are viewed as removing the “fun” element in favour of cold mathematics and “pathologically” dedicated to the mastering the game (2003: 301-302). Such depictions can also be found in the more commonplace dichotomy of “hardcore” and “casual” gamers. As I have argued elsewhere (Boyer, 2009) these terms are loaded with connotations primarily around gender and age, but also are linked to such elements as platform, genre, and play style.

For online games like *World of Warcraft*, there is also a serious concern that aspects of theorycrafting may contribute to the exploitation of what amounts to a fully-fledged economic system. This can be frustrating for all actual players participating in this economic system, as practices like “gold farming” (the playing of a game specifically to earn in-game currency to be sold outside the game for actual currency) distort the reward structures underlying their in-game actions, but is even more concerning for the industry. While this type of black market activity is specifically banned in *World of Warcraft*, Blizzard attempted to harness control over the consumption aspect of this power gaming segment in *Diablo III* (2012) by establishing a “real money auction house” (allowing players to buy and sell in-game items for actual currency, an exchange formerly occurring only on the black market) that would satisfy the needs of a variety of different players, but taking place within a highly controlled and monitored internal institutional system rather than in external, unverifiable venues. In terms of player perceptions, Nick Yee (2006b, web) has found that actual MMO players not only view gold farmers as disrupting the integrity of a game's economy, but are stereotyped as Chinese despite coming from a wide range of countries. Moreover, this blame and the term “gold farmer” are reserved for those people producing illicit gold for sale, while no distinct term is associated with the people buying farmed gold.

While power gamers may be frequently derided for their seemingly overzealous dedication, such dedication can also have beneficial uses for the games industry, and as such these types of gamers are increasingly being incorporated into the production process.

T.L. Taylor's work on eSports, or professional game playing, provides a more specific take on the subject, noting that eSports athletes are really just one variant of the power gamer. As Taylor argues, eSports and eSports athletes are becoming increasingly professionalised, and as such not only building up their own industrial structures, but becoming deeply intertwined with the existing games industry in a system of reciprocal benefit (2012).

Companies heavily involved with eSports like Blizzard, Valve, and Riot Games have been regularly inviting professional eSports athletes to play early versions of their games in order to gain a "professional" perspective on how the game plays, but without the internal biases held by the game's developers. With *Starcraft II* (2010), Blizzard has even begun enlisting common players, albeit those who are highly skilled, to test game updates in controlled maps. This outsourced labour focuses on very precise and skill-intensive testing, with Blizzard telling potential testers that they "are not looking for first impressions" and asking players to "[p]lease test the new map thoroughly" (Blizzard Entertainment, 2012b, blog post; see also Blizzard Entertainment, 2012a; 2013a; 2013b, blog posts).

These examples indicate how the games industry is not only attempting to extract value from highly skilled actual players, but to harness the information potential of people repurposing the originally intended measurement structures. For actual players, this information has a variety of emotional and temporal benefits, all of which are actively desired by the industry as well in the development and production process. Tapping into these information streams that cannot be explicitly sanctioned by the industry for reasons of control is in a sense a reciprocal repurposing by the industrial in an attempt to reinscribe these actions within the bounds of institutional control and a reintegration in notions of players as institutionally effective.

Rejection, Criticism, and Personal Information

Along with demanding benefits and player repurposing, actual game players also raise serious concerns about and reject certain versions of institutional measurement systems. While not directly involved in the encoded construction of these systems, actual players contribute to their eventual shape both prior to release and during a product's evolution

through discursive, sociocultural, and political pressure. In general, these concerns largely tend to revolve around either privacy or control.

Issues of privacy have become increasingly significant as actual players are required to continuously connect more and more of their own personal information to their game consoles and their associated player accounts. This ecosystem is highly connected as well, meaning that this data is not only stored remotely, but transmitted on a regular basis. Moreover, the rise of digital storefronts involve not only personal information, but financial information, which has significant implications for consumers, game companies, and regulators.

The case of the 2011 PlayStation Network outage emphasises the scale and number of stakeholders involved in concerns over privacy. At the core of this privacy breach is the over seventy-seven million customers whose accounts were potentially accessed by hacking group Lulzsec, revealing a slew of personal datapoints ("name, address, e-mail account, birthdate, gender, phone number, login name, hashed password") as well as a smaller number of people who also had their financial information ("bank account number, customer name, account name, customer address" or "credit or debit card number and expiration dates") exposed (Sony Online Entertainment, 2011, web). The linkage between in-game or on-service personas and actual players is made apparent in such data breaches, and only deepens when game companies insist on more explicitly tying real-world identities to service accounts, as already exists on Facebook and as planned on Sony's upcoming PlayStation 4.

From a consumer perspective, this type of service hack instils a strong sense of lost confidence, but is also a harsh reminder that virtual personas are easily tracked and connected to their non-game lives with both personal and economic consequences. This type of linkage has also been the source of rejection from actual players on the grounds of free speech and anonymity, as was the case with Blizzard's initial attempts to incorporate a "Real ID" system using actual names in all online services which inspired such hostility from the player community that the company significantly reworked the system (see Graft, 2010).

For stakeholders across the digital games industry, the PSN outage underscored the value potential placed on consumer's personal data, but also the risks involved in relying on such data. As the affected platform holder, Sony felt the brunt of this financial consequence, directly and conservatively estimated to be at least US $171 million, in having to rebuild system infrastructure, offer customer support, and offer consumer conciliation benefits including an identity theft program (Hachman, 2011). Furthermore, during the rebuilding of the network the ordinarily bustling digital storefront remained closed for business and completely inaccessible for nearly a month, meaning direct lost sales for developers and publishers, as well as potential (yet unquantifiable) sales lost due to consumer hesitation upon their return to the service.

Finally, this scope of this incident inspired intervention from regulators. Sony was asked to respond to a US House of Representatives committee hearing on “The Threat of Data Theft to American Consumers” (Seybold, 2011) and subjected to an American class-action lawsuit from angry users that was ultimately dismissed (Rose, 2012). In the United States alone, the initial investigation involved “attorneys general from 22 states,” the Federal Bureau of Investigations, and the Federal Trade Commission (Crecente, 2011b). Elsewhere, government officials in Canada (Stoddart, 2011, web) also threatened to respond, while the UK took more aggressive action by fining Sony a quarter of a million pounds and calling for them to “get their act together” (Information Commissioner's Office, 2013, web). Australia also passed more general privacy laws in the wake of the event (Cifaldi, 2011). Such government intervention extends the impact of this type of act beyond the people who actually play games to the taxpayers who end up funding these investigations, as well as through the more general privacy laws that have come about that directly shape all types of digital consumer activity.

As a whole then, the PlayStation Network outage indicates not only how valuable player data can be, but how this information supplied by actual players influences conceptions of players and circulation of these conceptions amongst various stakeholders. The more direct linkage between game account and actual player emphasises more general current sociocultural concerns with privacy in the digital age that reflect our conflicted position on living out our lives in the virtual realm. These broad questions relate to all people

navigating human existence in today's highly technologised and digitised society, and revolve around identity.

When this data is exposed beyond its original intent, however, the economic impact on institutional stakeholders immediately prompts a reframing of these concerns as concerning players' roles as consumers in the digital marketplace. Finally, regulators embrace this notion in attempting to protect both players as consumers and industrial financial stability, but additionally layering on a conception of players as political constituents. This incident indicates how multiple conceptions of players may circulate amongst a variety of stakeholders and parties, including the actual players whose data and personal concerns over privacy form the basis of all other institutional action in the situation.

Player Resistance and Industrial Control

While I previously discussed piracy and used games in chapter five as complicating sales data, from a consumer perspective these practices are also a way to subvert the need to contribute personal information. Retail game purchasing, which avoids digital transactions, are widely acknowledged as catering for actual players that do not have credit cards, most commonly assumed to be children. Regardless of the actual person, buying a game in a physical setting allows players the choice to eliminate at least some of the risks of data transmission and storage. Piracy works similarly in a digital setting, circumventing many of the established monitoring and measurement systems (though certainly tracked by other interested parties in different ways).

Even in situations in which personal information is required, actual players have the choice to not provide accurate details. A large majority of social gaming occurs on Facebook, a platform developed from the outset with real personal information in mind and that only integrated games once well established. Facebook officially allows only people above the age of thirteen to use the service (due to legal restrictions from United States), yet publicly acknowledge that they “can't make everyone prove their age” due to privacy concerns. As such, they are “very well aware of the research that a lot of 11 and 12-year-olds and

younger have Facebook accounts and lie about their age," stated in reference to Sonia Livingstone's estimation that over a third of UK children aged nine to twelve have accounts on the service (Sweney, 2013).

This type of intentional inaccuracy is not restricted to children, but to anyone especially concerned with inputting their personal information on the internet in a relatively public space. Even where inaccuracy is not a problem, this same concern leads people to hold back especially personal information and only include the bare minimum when interested stakeholders like the games industry would certainly desire more data. The scale of such inaccurate or withheld information is unknown, but clearly widespread enough to call into question the validity of measurement information that relies heavily on this sort of demographic data. As suggested in chapter five, that most demographic data is either missing or "mostly wrong" directly contributes to the prioritisation of behavioural data in industrial measurement systems (Wright, interview, 2011).

However, both of these methods of game acquisition are continuously under threat by the games industry, not only for their economic implications, but for this very circumvention. As games and game content continues to migrate into online settings, almost every major game publisher has begun requiring "online passes" or user accounts simply to play a game or its online component. Thus, regardless of where an actual player initially acquires their copy of a game, they will eventually be funnelled into a situation in which they must communicate with the game servers and transmit some amount of data that can be measured.

The more extreme version of this type of requirement can be found in current approaches to digital rights management (DRM). While DRM is ostensibly intended to protect intellectual property against threat from piracy, it is more accurately described as a means for the industry to control the ways people are able to use their products. Many popular models today do so by requiring a constant internet connection ("always-on DRM") so that the game servers can be in regular contact with the player client to verify that a legitimate copy is being used. Valve's Steam service, while allowing a limited offline mode, is one

example of this approach to DRM. Other major publishers like Activision Blizzard, Electronic Arts, and Ubisoft have all used or do use this approach as well.

However, actual players have voiced heavy resistance to such systems, not necessarily out of concerns over privacy, but with regard to user control. The launches of games like *Diablo III* (2012), *SimCity* (2013), and *Assassin's Creed II* (2009) have been hampered by overloaded servers verifying the always-on DRM not allowing legitimate purchasers to play single-player content. The consumer concern here is not one of privacy, but of control over use and access to products and content being artificially controlled by developers and publishers who are unable to cope with demand.

In the case of *Assassin's Creed II*, the verification downtime was officially blamed on attacks by hackers (Fahey, 2010), which even if true was almost certainly a result of the broad negative response to publisher Ubisoft's[1] restrictive DRM systems. By the release of the third game in the series, Ubisoft had abandoned this approach to digital rights management due to "feedback" from consumers, which in an interview with games journalism site *Rock Paper Shotgun*, the company's Worldwide Director of Online Games and Corporate Communications Manager point to as a direct cause of changes to corporate policy. At the same time, Ubisoft refused to publish any data about the effectiveness of this DRM approach on piracy rates, the touted reason for such systems in the first place, because it is "internally confidential[,] meaning competitive" data despite acknowledging that they "understand how damaging it's been to [their] argument to never actually say these numbers" (Walker, 2012). Here the needs and actions of actual players directly impacted on production decisions and corporate policy, despite publisher attempts to obfuscate data and retain institutional control.

For the more recent *SimCity*, consumer response to the failures of the always-on DRM servers has been much more vitriolic, especially with regard to the control of information.

[1]Ubisoft is one of the largest third party publishers in the world, headquartered in Montreuil, France. The company has been one of the most aggressive pursuers of tax incentive zones for production, particularly in Canada, but also outsourcing portions of the production of individual games to studios around the globe. Their most successful franchises include *Assassin's Creed* (2007), *Just Dance* (2009), and various titles in the Tom Clancy universe such as the *Tom Clancy's Rainbow Six* (1998) franchise.

Following what one journalist called a "year-long PR assault to suggest that the online-only nature of *SimCity* is designed to offer enhancements for gamers" despite being "an obvious piece of newspeak, such a ridiculous untruth" (Walker, 2013), Electronic Arts released the game in a broken, unplayable state due to its need to constantly communicate with game servers. On one level, this situation indicates the failure of a reliance on "demand metrics" when, upon release, "[m]ore people played and played in ways we never saw in the beta," as studio executives publicly attempted to explain (McWhertor, 2013a). However, despite claims from Lucy Bradshaw, general manager of EA-owned developer Maxis[2], that their "always-connected" game is not part of "a clandestine strategy to control players," I would argue that while she is technically correct, there is no question that "always-connected" is actually an explicit strategy to control players and their possible uses of industrially-produced and served media (Bradshaw, 2013, blog post).

With regard to information control, in her defense against the game's public backlash, Bradshaw insisted that the game is "not an offline experience" (Bradshaw, 2013, blog post) and that "[i]t wouldn't be possible to make the game offline without a significant amount of work by our team" (McWhertor, 2013a). However, at least one mod maker took up the challenge and generated a functional offline mode within days of Bradshaw's comments, without the aid of the size and training of an industrial production team (see Gera, 2013). Word of this mod spread through internet community websites beyond game industry control like Reddit, where the modder initially posted his findings, and was evidenced by a YouTube video that again gathered much community attention. However, any mention of the mod was removed from official EA forums on the grounds that it violated the game's Terms of Service, with an EA representative repositioning the mod discursively by stating, "Hacks are not mods." The same representative asked the community to "move it [discussion of the offline mod] to other places and continue the dialogue" (McWhertor, 2013b), implying that any "dialogue" in this scenario was between community members,

[2]Maxis is a storied game development studio, co-founded by games luminary Will Wright. The company has been responsible for a number of highly successful titles over the past several decades that have touted mainstream appeal, such as the *SimCity* (1989) and *The Sims* (2000) series. Maxis was acquired by Electronic Arts amidst a rash of controversial studio acquisitions, with the original studio in Walnut Creek, California eventually moved to EA headquarters in Redwood City, California. The company is now part of the broader Maxis label that includes Maxis (located in Emeryville, also near EA headquarters in the San Francisco bay area), The Sims Studio, and other EA studios focusing on content related to Maxis products.

not between community members and the developers/publishers. At stake in this example is not only the perceived "truth" of institutional statements about game features, but their willingness to transparently respond and engage with actual players in a way that may cede some level of institutional control.

Regardless of whether actual players are actively engaging with existing measurement systems, reconfiguring them for their own desires, or resisting their perceived intrusion, all three of these possibilities indicate the various ways in which actual players shape institutional measurement. Not merely entities existing to be counted for an industrial purpose, actual players help define the information gathering stage of the playermaking process and undermine any notion of a direct, uncomplicated linkage between actual people and the institutionally effective entities constructed by the games industry.

Image-Based Resistance

Just as actual players actively negotiate with the games industry over measurement, so too do negotiations structure the images emerging out of the playermaking process. At the core of struggles over player images are issues of identity and subjectivity, with actual players attempting to gain more control over the images that are meant to reflect them or serve as points of identification. Concerns over identity politics serve as the foundational points of contention, with gender and age the medium's most visible struggles, yet not overshadowing other negotiations over issues including race, sexuality, and class. These struggles bring three interconnected venues – the industrial, the communal and the cultural – into conversation with one another indicating the range of influence industrially-produced player images may have, as well as their malleability once they have been released into the public realm and out of their originally close institutional control.

While it may be tempting to segment these three venues into discrete paths of investigation, when it comes to issues of identity I argue that these various facets are far too interwoven for such an approach to be fruitful. Here I follow Adrienne Shaw's argument that, "playing games does not define one as a gamer. Like any identity, being a gamer intersects with other identities and is experienced in relation to different social

contexts" (Shaw, 2012: 29). While Shaw is specifically looking at identification with the specific word "gamer," her article advocates a shifting of emphasis onto the social context of the process of identification, wherein "gamer identity exists in relation to, but is not determined by, other identities like gender, race, and sexuality" and that is ultimately concerned with "the construction of the medium, not simply the construction of the audience" (Shaw, 2012: 31). My scope here is constrained to the circulation of audience images, but by bringing together industrial, subcultural, and broadly cultural discursive regimes aims to position these images within this type of identification framework.

In the most direct possible scenario, the actual players of digital games actively engage in conversations with the games industry concerning the player images and points of potential identification offered to them, with the hope of influencing their current options or future images. Because of the centrality of the text in exchanges between consumers and producers, while these discussions are not necessarily about representation within games, they often spring out of or surround these conversations.

A telling example of this type of negotiation is the ongoing discussion on developer Riot Games'[3] official *League of Legends* (2009) community forums about representations of gender within the game. One such forum thread that was started by player Rauhel and spawned hundreds of responses emerged out of concerns directly related to actual players rather than representation in-game. Rauhel arrives at issues of representation from an interest in figuring out why he personally, as well as an indicated prominent professional gamer, doesn't know many female *League of Legends* players and that those he does know feel marginalised by the community. He then cites the difficulties in entering into conversations with other male members of the online community as well as getting thoughtful responses from the game's developers. In order to avoid hitting these same roadblocks with this post, Rauhel adopts the industry's empiricist approach to knowledge

[3]Riot Games is the developer and publisher of *League of Legends* (2009), one of the most widely played multiplayer games globally for the PC. The game is notable for being one of the first extremely successful free-to-play titles, with the base content available for free and charging players only for access to "champions" (playable characters) and cosmetic items. The game has also become one of the most popular games in the eSports realm. The company is located in Santa Monica, California, initially funded by venture capital, now owned by Chinese internet, media and game conglomerate Tencent Holdings but retaining independent creative control and management.

in an exhaustive cataloguing of the various gender representations of the characters within the game. By leveraging quantitative statements like “3.5% of male champions are sexualized, and 78.5% of female champions are sexualized,” Rauhel successfully launched an engaged dialogue with several members of the development team (Rauhel, 2012, forum post).

One prominent Riot Games senior concept artist, Michael “IronStylus” Maurino, is particularly active in this and other similar threads on the *League of Legends* forums, describing his role as “sort of the point man for bringing the public sentiment internally” (Maurino, 2012b, forum post). His and other members of the development team's activity on the forums marks them as a shared space offering a close, albeit mediated, dialogue between players and developers. However, developer responses are privileged with the forum offering a way to jump directly to “Riot Posts” (or colloquially, “red posts,” in reference to their highlighted colour) and skip player contributions that are presumably less important.

Regardless, here Maurino indicates the centrality of knowledge and information circulation in combating issues of representation and, following the initial topic, the perceived impact on the game's playerbase. On several occasions, he points to industrial production constraints that stand in the way of quick and clear implementation of player feedback, stating, “Things take time to cycle through the backlog and into release. This is why course correction is not immediate” (2012b, forum post) and that “[b]ecause of production cycle, timing, cadence, etc, it may take time for that content to come to light” (2012c, forum post). While the fruits of player feedback may only be seen by players far down the production pipeline, the shift towards long-term, service-based, evolutionary design models has at least made the efforts of these types of negotiations possible within the lifespan of a single game, whereas prior to this by the time a player had a game in his/her hands, all design decisions were effectively completed.

As the “point man” for user feedback, Maurino indicates the complications of interpreting and communicating this information to other members of the production team, while also being sensitive to internal politics. While he is “highly aware of the issue and [is]

disseminating that information to the appropriate people" (2012c, forum post), at the same time "[t]he artists deserve credit for the execution of their craft and honestly deserve better than to have someone like me harassing them every time someone shows a bit of skin in their design" (2012d, forum post). As discussed in chapter six, this indicates the centrality of issues regarding media work in player images, with creators struggling with one another over who they are making games for and how to come up with a comprehensive image in a such a large, team-based media production environment.

Moreover, it hearkens back to the aforementioned struggle between creative and economic motivations for game work, with Maurino hesitating to let player feedback intrude on the creative visions of the design team. Along those lines, he defends the team from player criticism concerning commercial pressure by stating, "[n]ever have I EVER heard at Riot that we are motivated by *** to sell content" [sic] (Maurino, 2012d, forum post), here aligning his and other team members' interactions on the forums as ambassadors of creative rather than economic forces within the development studio.

Maurino sums the initial post up by describing it as "well composed, extremely well thought-out points and a lot of data to back it up... I love this information and this amount of it... You've actually saved me some work, and I owe you a coffee" (Maurino, 2012a, forum post). To unpack this statement a bit, Maurino isn't just responding to the sentiment expressed here, but to the focus on information and data, suggesting that this quantitative approach is more highly valued by and more easily incorporated into the industrial production system. The second half of this quote equates Rauhel's input to the type of work that Maurino himself performs on the job, yet the reward offered is not payment but a casual I.O.U. that is not easily cashed in on an internet forum. This deterritorialised, technologised and personalised offering is worthy of the state of media work today, with media workers and actual players from around the globe communicating in a digital environment over specific production decisions in a manner blurring the personal and occupational.

What Maurino has more obliquely offered Rauhel in return for his efforts is industrial legitimation of his input and an associated level of "subcultural" (Thornton, 1997) or

"popular cultural" (Fiske, 1992) capital. Drawing on the work of Pierre Bourdieu (1984), these terms suggest that struggles within player communities are driven by complex reputation systems in which some types of "players" and player activities are more highly valued by peers than others and serve as the foundation of intricate intra-communal hierarchies. Thus, the player images offered by the digital games industry aren't just negotiated by actual players with the industry, but with other members of the gaming community.

In some cases, these conflicts correspond very closely with the "platform images" described earlier, with Sony "fanboys" slandering their rival "Xbots" and vice versa, suggesting that game developers who view the platform as a way to understand their playerbase have at least some level of parallel on the consumption side. This extends to the product image as well, with devotees using certain games or franchises as markers within the gaming community of their own specific point of identification. The struggles over which gamer identities are more "legitimate" or valued in the subcultural hierarchy often are heavily embedded with identity politics, and often constrain and marginalise the player images offered to actual players based on factors like age (Pearce, 2008) and gender (Schott and Horrell, 2000).

Drawing on the previous section, from an audience perspective it may seem logical to assume that actual game players would hope to be measured and understood as thoroughly as possible in order to have games developed to address these characteristics. However, this is not always the case, as there is a clear indication that some audience members do not want to be properly measured, preferring to retain their privileged position in the subcultural hierarchy rather than give up ground to the invading "casual" or otherwise othered hordes, typically framed in terms of age, gender, and sexuality. For example, forum posters express outrage that "Bioware neglected their main demographic: the Straight Male Gamer" and even more precisely, that "Its[sic] ridiculous that I even have to use a term like Straight Male Gamer, when in the past I would only have to say fans" (Bastal, 2011, forum post).

In this case referring to Bioware's inclusion of multiple sexuality options in *Dragon Age II* (2011), this concern extended to direct lobbying of the game developers on the forums and received a lengthy response from the game's writer, David Gaider. While his response covers many aspects of the topic, relevant here are his invocations of measured data, individualisation, and the effectivity of forum posts on corporate action. With regard to data, Gaider defends the decision to include multiple sexuality options in the game through data collected from the franchise's previous title, *Dragon Age: Origins* (2009), stating "[w]e have good numbers, after all, on the number of people who actually used similar sorts of content in DAO and thus don't need to resort to anecdotal evidence to support our idea that their numbers are not insignificant" (Gaider, 2011, forum post). Here in response to fan feedback, the traditional institutional reliance on quantitative data (that is not publicly available) is again invoked in service of institutional power relations.

Moreover, the effective power of the individual is minimised within the forum setting, with Gaider worth quoting here at length:

> "I would question anyone deciding they speak for 'the straight male gamer' just as much as someone claiming they speak for 'all RPG fans', 'all female fans' or even 'all gay fans'. You don't. If you wish to express your personal desires, then do so. I have no doubt that *any* opinion expressed on these forums is shared by many others, but since none of them have elected a spokesperson you're better off not trying to be one. If your attempt is to convince BioWare developers, I can tell you that you do in fact make your opinion less convincing by doing so" (Gaider, 2011, forum post).

While the first half of this statement confronts original poster Bastal's explicit attempts to stand in for the entire population of "straight male gamers," on the whole this complicates notions of what role these official forums serve. Gaider dismisses this post as an individual's "personal desires" as well as any posts that seem to garner shared support in a manner that delegitimises all dialogue in this setting. Moreover, the invocation of political process to suggest that any player contributions must come through an elected spokesperson emphasises the unstructured system governing these types of player-led areas of discourse as a means of indicating their distance from the game's development team.

The negotiations over specific subjectivities within the gaming community extends externally with regard to images of gamers in broader cultural depictions. Perceptions of the digital games medium incorporate notions of the gaming audience which themselves are constructed by a variety of forces including advertising (Schott and Thomas, 2008; Kerr, 2003) and games journalism (Kirkpatrick, 2012) that have structuring influences on what subjective positions are offered by the industry within the sociocultural realm and are embedded with stereotypes surrounding issues like age, gender, race, class, and sexuality. Forces entirely outwith the medium structure perceptions of it, especially those images and stereotypes circulated in the popular press and regulatory discourses about the medium specifically, but also related stereotypes such as the "nerd" (Kendall, 1999; Eglash, 2002). Kowert, Griffiths, and Oldmeadow, for example, argue that cultural stereotypes of gamers as socially marginalised are widely acknowledged by actual players and thus are becoming cognitively internalised and socially naturalised (2012).

Game players adopt specific mental and social strategies to justify their engagement with the medium, and identification or disindentification with the proposed player images. These strategies have both gender and age dimensions, with Helen Thornham (2009) arguing that adult gamers rationalise, socialise, and humanise gaming in widely disparate ways based on countless social and familial factors. Likewise, Adrienne Shaw (2012) asserts that identification as a "gamer" is one part of the fluid multiplicity of subjectivities that people engage with, and that ultimately the sociocultural construction of the medium itself is the crucial component in "gamer" subjectivities rather than anything inherent in these stereotyped images. Thus, negotiations over player images that revolve around identity are engaged in the same broader sociocultural discourses that structure all issues of subjectivity, yet with the additional complexity of associated perceptions of the medium itself.

Playermaking and Knowledge

A certain portion of institutional stakeholders conform to the conclusion that "[t]he ideal audience to emerge from the culture industry's construction is largely passive, observing the products of the culture industry, waiting around to be counted, measured, and receive

intervention" (Shimpach, 2005: 305). However, the digital games industry's nearly wholesale rejection of passive audience paradigms amidst frequent media effects controversies suggests that this is hardly the case for most industrial sectors of this specific medium. The digital games industry is hardly satisfied with mere passivity, but rather embraces its active audience base to the point that they not only want players to pay for and consume their media, but also directly contribute to its production. In this situation, these same technological strategies used here and in other media industries to gather information and control their audiences are simultaneously being mobilised in the name of player production.

The games industry also negotiates with actual players over the systems of production with regard to control of the playermaking process itself. While the digital games industry may be focused on producing institutionally effective audiences, actual players most likely have other preferred outcomes in mind. Actual players don't just engage with the industry over issues of measurement or player images, but over what their level of engagement and control in the playermaking process itself actually ought to be.

This system of interactions between institutions and actual players is one determined by power relations. Ien Ang asserts the centrality of knowledge in these power relations, arguing that "knowledge is one of the defining components for the operation of power in the modern world...power and knowledge are intertwined through concrete discursive practices – that is situated practices of functional language use and meaning production" (1991:8). Moreover, Ang positions definitions of the "audience" as a central battleground of knowledge and power in media industries, with institutions using these definitions "in a situation of confrontation to deprive the opponent of his means of combat and to reduce him to giving up the struggle" (Foucault, 1982: 793; qtd. in Ang, 1991: 41). Crucially in this struggle between the digital games industry and actual players, as Foucault states elsewhere, "power is less a confrontation between two adversaries or the linking of one to the other than a question of government," (1982: 789) with institutions attempting to exert their governing powers through the control of knowledge.

The digital games industry asserts the primacy of its knowledge in the power relations of playermaking in a variety of ways, tempering expectations of player contributions to knowledge through the invocation of distrust, naturalisation, minimisation, and interpretation. With regard to the first of these, while many developers highly value feedback from actual players, many others treat such feedback with hesitation and immediate scepticism. For example, game designer Scott Rogers argues in his game design book for the common sentiment that "I believe that most gamers don't know what they want until it is shown to them" (Rogers, 2010: 28).

Developer Raph Koster similarly claims on his blog that "Players know what they want *from what they know*. And they don't know what they want from the unknown" (2008, blog post, emphasis in original). For Koster, this is not a criticism of players – in fact he positions this as a defence from attacks against players wanting the same thing as determined from their market actions (e.g. people keep buying military first-person-shooters, so that must mean they want more military first-person-shooters, when in fact they are only buying them because they are what is offered) and a condemnation of corporate risk mitigation's impact on safe and uninspired content.

Regardless of intentions, however, the result is a naturalisation of the role of the game developer in taking that first agenda-setting step and serving as arbiters of original knowledge. In his design book, Richard Rouse III positions this difference as intuitive, bordering on biological, stating, "...understanding what is enjoyable about a game experience is not knowledge that can be taught; on some level it must be an innate sense that a designer possesses. Designers must have the ability to assess whether something is fun for themselves, combined with the ability to listen to the opinions of others." (Rouse, 2005: 1). Here the "innate sense" of a game designer is explicitly linked with the determination of what is "fun," which as discussed in chapter six, plays a role in constructing player images based on developers' own self-conceptions.

Similarly, designer Lars Bakken from Bungie, the developers behind the blockbuster *Halo* (2001) franchise, positions the role of the developer in understanding game design and dealing with player feedback as a biological process. In a published interview, he states,

> "It's just taking all that feedback in and trusting your instincts as to what's right and what's wrong... You can read a million things on the forums. Once you become experienced with it, you can just say 'no, they're wrong' or sometimes if something hits you, it kind of clicks and you're like 'wow, that's actually a really good point.' Normally, you know almost immediately. It's a gut-level reaction. There's no way to explain how that works" (Klepek, 2010: 11-12).

In determining what knowledge is prioritised in development then, it is the "instincts" and "gut-level reaction[s]" of developers working in service of institutional control that outweigh external feedback from actual players.

This "biological" thread continues into the institutional minimisation of input from actual players. By minimisation, I actually mean that within the "massive tons of information" described by Brenda Romero (interview, 2011) that nearly every game developer speaks of receiving from fans, there is only a tiny amount considered to be worthy of interest. Thus, the simultaneous inflation of the quantity of feedback serves to minimise the role of each individual piece of player input into the production process. Caspian Prince adamantly claimed in our interview that certain player suggestions have made very positive impacts on his games, especially one "genius piece of design" from a player, yet ultimately describes the process of separating good feedback from the less useful feedback as "sifting for nuggets of gold in the sea of effluent" (Prince, interview, 2012).

With such large amounts of feedback coming in, the job of "sifting" ultimately becomes quite important for game developers who hope to take advantage of feedback from players. This process of interpretation once again shifts power back towards institutional stakeholders who are now not only in control of the original ideas governing early development, but also judge the value of external knowledge such that it can be shaped for institutional effectiveness.

Measurement data is also a significant factor in intepreting player feedback, such as in Dallas Snell's discussion of the benefits of behavioral analysis over "subjective feedback," stating of players,

> "They may tell us they like that element, but if they only went over there once and never went back, then they didn't really like it did they? Not the way we needed for them to like it, so their description of what they they like or don't like often turns out to not be anywhere near accurate enough." (Snell, interview, 2012).

An even more blatant example of the relationship between knowledge and power in this interpretation process is Gearbox Software's so-called "Truth Team" that conducts focus tests with actual players, collects their comments, and then analyses these statements to "figure out what they really meant." Here, the biological thread is turned on its head, as a member of the "Truth Team" arguing in an interview with a popular gaming news website that "[t]esters try to speak in fact, but they speak in emotion... They speak about their experience, not what actually exists in the game" (McElroy, 2012). In this equation, players are creatures of base emotion and myopic experience without any linkage to fact or reality and as such cannot be trusted or generalised from without the intervention of dedicated analysts who are, implicitly, not governed by the unreliability of emotions. Most significantly, the "Truth Team" indicates the embeddedness of this relationship between power and knowledge in an institutional structure.

This relationship, however, extends to smaller independent developers as well, with Derek Yu stating on his blog,

> "player feedback is very valuable, but cannot always be taken at face value. I've come to think about it as almost a doctor/patient-type relationship: the player may approach you with symptoms... and it's up to you to figure out what the real problems are. Simply treating the outward symptoms may alleviate them temporarily, but won't necessarily address the underlying, and more fundamental, problems" (Yu, 2010, blog post).

Here, the players are the patients infected with emotional uncertainty, while the developer clinicians are able to avoid this infection through industrial professional standing.

Moreover, even within the large institutional structures there is a level of interpretation and decision-making that must occur to put user feedback into action and, simply, to keep a

project's development on schedule. Electronic Arts executive producer Steve Papoutsis describes this struggle, stating in a published interview, “There's always this balancing act... of what the team wants to do, what the community wants and as the [game's] executive producer, it's my job to go, 'Hey, hold up, we gotta stay on the rails here. This is where the track is'” (Klepek, 2010: 10). In this view, actual player input becomes integrated into the larger institutional system of internal negotiation and struggle over what information and valued and how this information is acted upon, but in keeping with institutional power relations, ultimately control over knowledge is retained by those in the most privileged institutional positions.

Some companies have begun to offer actual players a more active role in information generation, control over this information, and governance of community systems utilising this information. Valve, for example, has opened up Steam Guides, which are “player-created references for games and software,” leveraging player information for the benefit of the community (Valve Corporation, 2013b, web). While this type of information sharing is common in all online (and offline) player communities, Valve has integrated these guides into its official framework and technical systems, enabling players to easily access this player-generated information from within a game.

At the same time, however, it deepens their control as platform holder over user attention, encouraging players to spend more time on their service instead of heading to existing sources of this information like printed guides from companies like Prima or external community sites like GameFAQs. Similarly, by existing within the Steam Community, these guides are subject to institutional systems of governance. In this case, the official “Rules and Guidelines for Steam Guides” (Valve Corporation, 2013a, web) give Valve the final word on content, information, monetisation and moderation to ensure that player-created guides don't conflict with institutional imperatives. Any information threatening to the company, such as explicitly “Off-limit Topics” like piracy, copyright material, hacking, or game exploits (the definitions of which are all implicitly under Valve's discretion) can result in the removal of guide-creation privileges or expulsion from the system entirely. Similarly troubling is the suggestion that merely arguing with a moderator is a punishable

offence, with actual players ordered to “Let the moderators do the moderating,” an open call for submission to institutional control in a seemingly player-driven environment.

Riot Games offer players a more central role in governing their own community for the game *League of Legends*. While Riot did set out the initial “Summoner's Code” meant to guide players' behaviour in the game and surrounding community, this code is not a set of hard and fast rules, but rather a set of nine general principles (such as “Drive Constructive Feedback” and “Facilitate Civil Discussion”) with brief descriptions that are largely left to the community to interpret (Riot Games, 2013a, web). The company states that, “We believe in giving the community what it needs to define itself and that includes what is acceptable or unacceptable behavior. Any rules provided by Riot Games could unnecessarily influence the community” (Riot Games, 2013b, web).

When the game's community had developed a reputation for hostility and unpleasantness, one of Riot's first moves was to set up an in-house “social systems” division called “Team Player Behavior” to try to rectify the situation. Led by a psychologist and leveraging scientific knowledge in the name of industrial control, the goal was to figure out how “with certain systems and game design tools, we can shape players to be more positive.” Here, the language is explicitly founded on institutional control and manipulation of players, but with seemingly positive intentions for both industry and actual players. In response to actual player feedback to the system, lead designer of social systems Jeffrey Lin suggests that these benefits extend well beyond the game itself to the behaviours of actual people, reportedly stating to his team, “This is not about games anymore, you guys are impacting these players” (McWhertor, 2012).

Part of this primarily internal solution, however, was to externally extend control over information and moderation to actual players. To aid player control over governing their peers' actions, Riot developed the Tribunal System which they describe as a system that “empowers the League of Legends community to regulate the conduct that it considers appropriate and supports the tenets of the Summoner's Code” (Riot Games, 2013b, web). It combines automated measurement information from the game along with complaints reported by players to allow actual players to interpret and judge the actions of fellow

players, rendering some punishments directly while contributing judgement information back to Riot in more severe situations. The impact of these punishments certainly occurs within the game itself, but also have implications for the lives of actual players, perhaps most visible in the banning of several professional *League of Legends* players from competitions with clear economic consequences, based largely on information coming out of the Tribunals (Beck, 2012, forum post; Katz, 2013, forum post).

While not fully relinquishing control over the judgement and shaping of player behaviour, the Tribunal system indicates one example of negotiated power relations between industry and actual players revolving around knowledge. Here, information that occurs in game (incidences of "toxic" behaviour, such as use of offensive language or the intentional misuse of character abilities) is flagged as noteworthy by in-game players, aggregated and analysed by the developer's automated tools to determine which players show patterns or high levels of toxicity, fed back in anonymous form from developer to actual players in the Tribunal system where this information is evaluated by community members according to community standards, and finally returned back to the developer's support teams who make final judgements and enact punishments.

Even so, while the digital games industry actively encourages and courts player feedback and input into the game development process, the resulting relationship between institution and actual player is one governed by unequal power relations. At the core of these relations is control over knowledge, which forms the basis of all negotiations between opposing parties. Playermaking is itself structured around knowledge, with the resultant term "player" mobilised to discursively control the role that actual players have in the process, and to either legitimise or de-legitimise their input in service of institutional effectiveness. In the end, it is up to the most structurally embedded institutional stakeholders to make the final decision on who, in the words of Sony Computer Entertainment of America CEO and President Jack Tretton, the "true gamers" are (Cifaldi, 2013) and what that means for the industry, society, and actual players.

Conclusion

This chapter has focused on the second aspect of the final portion of the playermaking process to examine how actual game players negotiate with the digital games industry. Rather than presume a top-down implementation of measurement systems and dissemination of player images, this chapter argues that the games industry is always in dialogue with actual players in a system of hegemonic negotiations. This opens the door for input emerging from the bottom-up, but within structures defined by unequal power relations.

In terms of measurement systems, actual players often demand rewards or other positive engagement in return for the submission of their personal information, not submitting to these systems of control unaware. When they find such systems to be too dominating, these actual players either reject or criticise the system outright in hopes of a more tolerable system in the future, or reconfigure or repurpose the measurement systems for their own benefit. Regardless of the outcome, in all cases the games industry does not merely create a system of measurement and begin receiving information without regard for the actual players, but rather must predict and ameliorate their demands in order to make them appear beneficial or worthwhile if in no other way than with the goal of creating a better product.

These types of struggle extend to player images, which become hotbeds of intense struggle once circulated in a variety of industrial, player community, and sociocultural discourses. The gravity of issues of identity and subjectivity mean that these images are contested from their moment of creation, with actual players entering into conversations with developers over the subject positions offered to them in game content. These positions then become embedded in discussions amongst members of the gaming community, who struggle over their shared but divergent identities revolving around games, and then more broadly with regard to general conversations about the digital games medium and its associated player stereotypes.

Playermaking, then, is a process involving a wide variety of stakeholders, both internal and external to the digital games industry, any of whom may either contest or support proposed

player images. As a primarily industrial process, however, institutional control is largely maintained through privileging of institutional knowledge, be it through a distrust of outsider information from players, a minimisation of useful player input, the naturalisation of game developers as biologically superior at understanding games to their players, or the emphasis placed on developers as interpreters. In every case, player feedback may become useful for the eventual game product, but only once it has been assimilated into and fully controlled by institutional forces.

Chapter 10

Conclusion

This thesis has described and analysed what I have called playermaking, the process by which the digital games industry conceptualises its audiences. The first few chapters outlined the theoretical and methodological bases underlying this research, looking to how studies of the audiences and industries of "traditional" communications media can inform an investigation into the audiences and industries of digital games, and vice versa. While scholars in media reception studies and political economy have widely adopted a constructionist approach to audiences, this thesis contributed a thorough adaptation of these ideas to the medium of digital games that had not previously been undertaken. Moreover, I focused heavily on Ettema and Whitney's (1994) concept of "audiencemaking" which, while groundbreaking in its time, did not find a way into common academic usage and as a term has increasingly been skewed to minimise its constructionist core. As such, my usage of "playermaking" displays the continued relevance of this concept for studies of media audiences today as well as recentering the term's focus onto the institutionally constructed nature of the audience.

In performing this theoretical adaptation, I argued that audiencemaking for film, television, journalism, and other media has much in common with the construction of digital game players, but that there are a number of issues of media specificity that set digital games apart. Across media, the construction of audiences is increasingly technologised, deterritorialised, and personalised but this occurs in an exceptionally advanced state for digital games as a medium that is highly reliant on technology, a unique global production network, and a continually contested sociocultural status.

The remainder of this thesis expanded on these points to go more in depth into how the playermaking process occurs across the digital games industry, not focused on the actual people playing games, but on how the industry itself understands and operationalises its conceptions of these players. I looked in depth at three stages of playermaking –

measurement and information gathering, the creation of player and product images and negotiations over these images – to offer a complex and detailed picture of the various stakeholders and power relations that structure the process of creating game players.

In the first of these, I argued that while the digital games industry is increasingly adopting highly technologised systems of player measurement, these systems are largely focused on behaviour and monetisation, often occurring within publishers and marketing departments, leaving those workers making game content and production decisions to rely on more traditional and informal methods of gathering information. Moreover, these technological measurement systems have brought with them not only new opportunities, but new challenges and complications for development, including the high cost of large-scale data analysis, concerns over consumer privacy and internal conflict over the perceived divide between creativity and "metrics fetishism" (Hecker, 2010, blog post).

This information is then translated into player, product and platform images that can be readily incorporated into production routines and easily understood across various institutional stakeholders in differing positions in the production chain. The first of these generally involves developers conceptualising players based on themselves, people they know or as idealised theoretical players. The product and platform images take a materialist turn to define player images based on their relationships to either games or gaming platforms, but once again, much of this information is largely known to developers only by stereotype, personal experience, professional anecdotes or widely circulated public studies. In all three cases, these images serve as attempts to combat high levels of uncertainty over the unknowable audience, which I argued is part of the futility of attempting to condense the complexities of sociocultural engagement with the medium into concise and constrained images.

The final three main chapters focused on the heavily contested nature of the playermaking process in different contexts. Chapter seven took a geographical approach to investigate how playermaking occurs differently across the global production network within which the digital games industry is one component, using the US and the UK as points of comparison. I argued that while the industry is highly globalised, the network itself is

unequally distributed and defined by power relations governing the interactions between different institutional stakeholders around the world. Underlying this network is a neoliberal logic that has meant value flows towards the most economically advantageous countries while hardware and software production are defined by intense levels of competition.

I contend that the US embodies this neoliberal logic, heavily relying on both intra- and international competition over production taxes and incentives to draw capital back into the many large corporations headquartered within the nation. By housing these companies, major hardware producers, platform holders and the single largest consumer market, I contend that conceptions of the American player hold privileged positions within notions of players worldwide. On the other hand, the UK has a strong heritage of software production and is transitioning into a more flexible and independently-orientated industry, but is leeching both funds and workers to other more competitive production zones. Moreover, while British media and games policy trumpets arguments about the medium's cultural significance, the policies themselves reflect a broader disavowal of the “national” player in favour of the idealised global consumer.

Chapter eight continued this focus on the production network to examine how the playermaking process is contested amongst stakeholders within the digital games industry. I argued that within individual companies, game development is a process of synthesis of the various images held by the different workers creating a game, reflecting the conditions of production and power relations governing labour within the digital games industry. These negotiations continue on the institutional/organisational level as stakeholders across the industry compete and collaborate in the production of a game, with the relationships between developers, producers, platform holders and retailers only becoming increasingly strained as the industry evolves. Ultimately, I argue that each stakeholder constructs players for its own institutional purposes, with power relations played out in both explicit and implicit negotiations determining which player images gain most institutional currency across the production chain.

In concluding my discussion of negotiations over the playermaking process, chapter nine brings the actual people playing games into the picture to investigate how the digital games industry engages and responds to these actual audiences in negotiating the shape of their constructed counterparts. Following the trajectory of the rest of the thesis, the first section looked at how actual players adopt, repurpose, and contest measurement systems in order to ensure that they are not solely institutionally effective. Instead, the actual players of games seeks out some sort of positive engagement, a refocused emphasis on their own game playing goals and desires, and an opportunity to reject current measurement systems and/or shape the expectations of future systems based on their actual experiences playing games. I then moved into the issue of images to investigate how actual players engage with game developers when navigating the role of industrially-defined player images in sociocultural identities, arguing that this involves broader conversations about the role of the medium itself. Finally, I looked at struggles between the industry and actual players over control of gaming knowledge, stressing that the industry increasingly relies upon players and player communities for the generation and circulation of knowledge about complex gaming information, but ultimately retain a strict grasp over how this information is monetised and incorporating into production routines.

Across these chapters and the entirety of my research into the playermaking process as well as in my expert interviews with digital game professionals, a number of key trends came to the surface that indicate not only the major undercurrents running through the digital games industry today, but where playermaking may head in the future. The first of these is the most historically oriented, which is that despite all the major transformations in how digital technology has impacted on modern life, the process of understanding today's media audiences has remained largely consistent with how they have been conceptualised in the past and across different media formats. Despite having access to new technologies that allow for vast amounts of information about players, digital game developers continue to rely on tried and true methods of conceptualising their audiences and still base their images on friends, peers, personal experience and intuition. New methods and models of the audience have certainly influenced the way the playermaking process occurs, but while simultaneously introducing new and complex challenges (such as those associated with big data) and high costs of implementation and analysis that have made all but the most

financially successful companies revert back to established traditions. Moreover, the dominant factors shaping the conceptualisation of digital game players are also transforming the ways audiences of other media are being conceptualised today, with the gaming industry often both serving as the vanguard of industrial change and an indicator of the increasingly tenuous status of media and industrial specificity.

Despite the continuities, my research also has emphasised how much in flux the digital games industry is today and the amount of diversity in the ways different companies operate and thus understand their players. The latter portion of this thesis emphasised this fact, examining the various ways that the playermaking process is highly contested amongst institutional stakeholders with different geographic, industrial and cultural contexts. The result of this is a depiction of the digital games industry as one part of a giant global production network that is in no way consistent and extremely difficult to encapsulate, but instead is defined by these very negotiations and struggles.

The transitionary, sprawling, and often impenetrable nature of this production network indicates some of the limitations of my approach in this thesis. Even just within the time of writing, the industry has undergone significant changes in terms of how games are made, funded, distributed, experienced, and perceived which point to the limits of any specific arguments' applicability towards the future unknowable games industry. However, I attempted to mitigate this issue by taking a historical approach that placed current shifts into institutional and industrial context while stressing drastic change as a core feature of both the medium and the modern digital games industry. Likewise, focusing solely on the US and the UK offered a concise view of how the industry operates in two different territories, but at the cost of minimising emphasis on other components of the global production network, most significantly Japan. While differing in cultural specificity, the concepts outlined here are certainly applicable in other regions, offering ample room for future study.

My fieldwork painted a similar picture, ranging from tiny independent outfits consisting of only a few individuals to people working in big studios on large blockbuster titles. Focusing on a relatively small number of interviewees, limited by both access and scope,

allowed me to investigate my research questions in depth and more fully engage with the intangible process of conceptualisation, but at the cost of generalisability. But even within companies of similar stature, there is a considerable amount of diversity in approaches to game development and conceptions of players. The past few years have seen a rapid expansion in the ways that companies can fund, create, and distribute their games that has already and will continue to significantly transform the shape of the digital games industry and the way that the people within this industry perform their day to day to work. As the industry becomes increasingly flexible and project orientated, the contingency of workers discussed throughout this thesis is only going to deepen as more of these people remove middlemen like publishers and directly engaging with actual players, but at the cost of personalising industrial risk.

Even at the largest scales, stakeholders continue to embed their businesses into industrial and political systems defined by intense competition and the high risk uncertainty of a medium emphasising sophisticated and novel technology. Here job security would seemingly be more assured based on sheer numbers, but recent industrial reorganisation and continued risk aversion are leading to increased contingency at the studio level, as discussed in the UK context in chapter seven. On a smaller scale, digital game creators are personalising the risk of production, in many cases then continuing to emphasise the consumer player albeit requiring a smaller number of these consumers to recoup their investment. However, the increased popularity and presence of the independent game development scene, the rise of extremely simple and affordable game development tools like Twine and GameMaker: Studio, and movements like the folk or more political "zinester" approach advocated by Anna Anthropy (2012) has meant a drastic expansion in what is considered a "game" with implications for what types of players these experiences construct. The transition in digital distribution systems has meant that an extremely varied range of games are available to consumers within the same marketplaces.

Moreover, just in the past few years players have increasingly been conceptualised by game creators in a new form of convergence that moves beyond mere content production to offer actual players roles in the creation of games that involves many different aspects of game production and distribution. Players are now regularly conceptualised as funders (on

services like Kickstarter), producers (Steam Greenlight), testers (in betas), advertisers and marketers (viral and social marketing), as well as contributing actual content of huge variety. Most of these shifts have occurred during or just prior to the writing of this thesis, and as such their impact on how players are constructed within the industry, how the industry itself will change to reflect these new roles, and how media workers will see their occupations shift and evolve are still largely to be seen. Regardless, players are undoubtedly constructed as core stakeholders in the production of games today to an unprecedented degree.

Another emerging area of particular relevance to this study is the widening possibilities for advertising given new modes of game content monetisation. While I argued in chapter three that advertising's centrality in broadcast media like television and radio is a key differentiator with regard to digital games, the recent ascendency of game spectatorship associated with internet streaming services and the popularity of eSports is bringing advertising into contact with the medium like never before. Though it is still relatively marginal in terms of industry monetisation and there is a historical lack of an advertising precedent during the medium's formation, the future of this trend will be ripe for new applications of theories like audiencemaking as both game players and viewers are increasingly conceptualised to be effective in relation to advertising.

Finally, while the scope of this thesis meant that I was mostly focused on how the people actually constructing and producing game content conceptualise game players, the concept of playermaking has applications far beyond this limited view and offers extensive opportunities for further research. One clear route forward is to look at how playermaking operates on an expanded number and type of workers and institutional stakeholders within and beyond the digital games industry. My emphasis here was mostly on how playermaking structures game design and broad production decisions, but the ideas described in this thesis also have a major impact on a variety of other game industry jobs such as art (how do conceptions of players affect the representations of people portrayed within games?) and community management (how do game companies view the players that they actively court and with whom they communicate on a regular basis?).

There is also a host of other industrial and para-industrial stakeholders that shape the way players are perceived, but which are not specifically focused on creating game content. This would include the extremely significant marketing, advertising and public relations sectors that are involved in large scale consumer research and communication, but largely serve to sell separately-developed games to target consumers rather than influence production directly. Even so, these sectors play a significant role in how players are conceptualised within the digital games industry and in broader culture.

Likewise, much of the circulation and discussion over institutionally-defined player images that feeds into general social discourse occurs within the realm of journalism. This includes both the games specific "enthusiast" press and mainstream general news outlets, that once again have an indirect impact on how the people creating games understand their audiences, but nonetheless guide much of the conversation about players in public discourses. Moreover, these press outlets are a crucial and complex point of contact and communication between the digital games industry and actual players, serving to interpret, translate, critique and disseminate institutional images of digital games players to the people who actually end up playing games, and as such is a nexus of negotiation and struggle between consumers and producers.

While these and other institutional stakeholders were beyond the scope of this thesis, I have endeavoured to provide a view of playermaking that emphasises the complex contested, negotiated, and networked nature of game production and the creation of digital game players. As a medium, digital games thrive on the strength of complex, technologised systems, both in the hardware and software platforms that allow digital games to run, and in the code that manifests on-screen and with which players interact. The field of digital games studies should likewise emphasise the networked, systemic nature of this area of academic research, but thus far the idea of a game "player" has been largely taken for granted and viewed as decidedly non-systemic. The conflation of the actual player and the constructed player that runs so rampant throughout studies of digital games exists in ignorance of the vast body of research into the constructed nature of audiences of other media, as discussed throughout this thesis, and has been a primary goal of my research here. Just as the digital games industry is a living system involving a vast number of

moving parts, complex power relations, and globally networked stakeholders, so too must the study of digital games and digital game players reflect this complexity at the core of the field.

Appendix A

Expert Interviews

Interview Subjects

- **Anonymous A**
  - Social Games Studio
    - UK
  - Executive
  - In Person

- **Anonymous B**
  - Mobile Games Studio
    - UK
  - Director
  - Email

- **Ambinder, Mike**
  - Valve Corporation
    - Bellevue, WA, USA
  - 5 September 2012
  - Skype
  - Bio: Mike Ambinder is a PhD psychologist working at Valve Corporation primarily working on user experience and experimental physiological applications for Valve titles like *Portal 2* (2011) and *Left 4 Dead* (2008). The company itself is known for its flat non-hierarchical organisation and cohort-style working environment, extreme experimentation with its game titles, and data-orientated production. Valve is an independent developer and publisher, but dominates the PC platform with their Steam marketplace.

- **Gaynor, Steve**
  - The Fullbright Company
    - Portland, OR, USA
  - 24 August 2012
  - Skype
  - Bio: Steve Gaynor is a game developer at The Fullbright Company, a small independent development studio in Portland, Oregon. Gaynor entered the games industry in the traditional entry-level Quality Assurance route before getting a job in level design at TimeGate Studios on the strength of his mod experience. He is best known for being the Lead Designer on the highly acclaimed *Bioshock 2* (2010) downloadable content campaign *Minerva's Den*

from 2K Marin. His company recently released the first-person exploration title *Gone Home* (2013).

- **Hackett, Brian**
  - Claymore Games
    - Glasgow, Scotland, UK
  - 20 February 2012
  - In Person
  - Bio: Brian Hackett is one of two people working at Claymore Games, based in Glasgow, Scotland. The independent company began its' life in 2004 and focuses on mobile and smartphone games with titles including *Plum Crazy* (2011) and *Super Solitaire* (2009). Hackett is responsible for most of the studio's programming work while partner Alan Grier primarily works on art and design.

- **Kasavin, Greg**
  - Supergiant Games
    - San Jose, CA, USA
  - 28 June 2011
  - In Person
  - Bio: Greg Kasavin is the Creative Director of Supergiant Games, based in San Jose, California. Kasavin was formerly a games journalist who worked up to Editor-in-Chief at one of the most popular gaming news websites *GameSpot.* He then shifted into development in the mid 2000s working at Electronic Arts on the *Command & Conquer* (1995) series and later at 2K Games on *Spec Ops: The Line* (2012). Supergiant is a small independent development team known primarily for their first downloadable title, the critically-acclaimed *Bastion* (2011).

- **Norton, Brett**
  - TimeGate Studios
    - Sugar Land, TX, USA
  - Design Director / VP of Studio Operations
  - 17 April 2012
  - In Person
  - Bio: Brett Norton is the Design Director and Vice President of Studio Operations at independent TimeGate Studios in Sugar Land, Texas. The company is best known for PC strategy titles like *Kohan: Immortal Sovereigns* (2001), expansion packs for the *F.E.A.R.* franchise (2005) and the multiplayer shooter *Section 8* (2009). During the writing of this thesis, the company filed for bankruptcy following a lawsuit with former publishing partners Southpeak, who gained control over the *Section 8* intellectual property, as well as the controversial release of *Aliens: Colonial Marines* (2013), which TimeGate had a role in developing along with Gearbox Studios for publisher Sega.

- **Pavlovic, Sunni**
  - That Game Company
    - Los Angeles, CA, USA
  - Studio Manager
  - 7 August 2012
  - Email
  - Bio: Sunni Pavlovic is the Studio Manager at That Game Company, based in Los Angeles, California. Originally working in the media industry in China, Pavlovic began working in games publishing in 2009. That Game Company is a critically acclaimed independent developer of downloadable experimental, emotion-driven games for the PlayStation 3 including *Journey* (2012) and *Flower* (2009).

- **Prince, Caspian**
  - Puppygames
    - UK
  - 1 November 2012
  - Skype
  - Bio: Caspian Prince is the primary developer for UK independent company Puppygames, along with artist Chaz Willets. They create retro-style games for the PC including *Revenge of the Titans* (2010) and *Droid Assault* (2008).

- **Romero, Brenda**
  - Loot Drop
    - San Mateo, CA, USA
  - COO
  - 27 June 2011
  - In Person
  - Bio: Brenda Romero (formerly Brenda Brathwaite) has worked as a designer in the digital games industry since the early 1980s, best known for her work on the *Wizardy* (1981) and *Jagged Alliance* (1994) series as well as non-digital art games like *Train* (2009). She has worked for a range of companies including Electronic Arts, Sir-Tech, Firaxis and Atari. A highly prominent figure in the industry, Romero has served on the board of the International Game Developers Association (IGDA) and was the chair of the IGDA Women in Games special interest group, as well as regularly giving keynotes and talks at industry events like the Game Developers Conference. She currently designs social games, previously working at Lolapps on titles like *Ravenwood Fair* (2010), now serving as COO and designer at independent studio Loot Drop on games like *Ghost Recon: Commander* (2012).

- **Smith, Andrew**
  - Spilt Milk Studios
    - London, UK
  - 17 October 2012
  - Skype
  - Bio: Andrew Smith is a designer for his own independent company Spilt Milk Studios, based in London. Prior to starting his own company, Smith worked as a designer for Scottish studio Proper Games on the award-winning *Flock!* (2010). His company now develops primarily smartphone games like *Hard Lines* (2011), as well as a variety of design and consultation contract work for clients including Appynation, Microsoft and Skillset.

- **Snell, Dallas**
  - Portalarium
    - Austin, TX, USA
  - Development Director
  - 7 July 2011
  - In Person
  - Bio: Dallas Snell began working in game development and publishing the early 1980s, notably joining Origin Systems in 1985 where he worked his way up from development to company-wide Executive Producer, becoming Origin's General Manager when the company was acquired by Electronic Arts. Snell took at a decade-long break for game development in the mid 1990s to study psychology and social dynamics, returning the industry to found Portalarium with former Origin partner and fellow industry veteran Richard Garriott. The company initially focused on social games like *Port Casino Poker* (2011) for Facebook, but has since raised venture capital and run a successful Kickstarter campaign for a spiritual successor to Garriott's flagship *Ultima* (1981) series, called *Shroud of the Avatar: Forsaken Virtues*.

- **Stuckwisch, Jay**
  - Twisted Pixel
    - Austin, TX, USA
  - Marketing Director / 2D Artist
  - 18 May 2011
  - Email
  - Bio: Jay Stuckwisch is the Marketing Director at Twisted Pixel Games, at the time of interview an independent developer primarily releasing titles on Microsoft's Xbox Live Arcade platform including *Splosion Man* (2009) and *The Maw* (2009). Shortly after the release of their Kinect title *The Gunstringer* (2011), the Austin, Texas based Twisted Pixel was acquired by Microsoft. The company's games are known for their bizarre humour and extreme difficulty.

- **Wright, Chris**
  - GamesAnalytics
    - Edinburgh, Scotland, UK
  - CEO
  - 18 November 2011
  - In Person
  - Bio: Chris Wright is the CEO of Edinburgh based Games Analytics, a firm that works with developers and publishers to offer proprietary data mining and metrics analysis tools and services. Wright has been working in the digital games industry since 1995, notably serving as European Director of mobile game publisher I-Play, and has extensive experience in game development, publishing, management and consultancy.

Key Themes and Sample Excerpts

- **"Who do you consider to be the audience for your games?" How was this conclusion reached (intuition, personal experience, reports, data) and why decide to make games for these players?**
  - Steven Boyer: My first really broad question, then, is just: If I asked you to describe the audience for your games, where would you start?
  - Caspian Prince: I'd start with me, because I don't really know any other in any real detail. I'm not a very good game designer. I'm no good at working out what other people like. So I have to start with myself and hope there's overlap. It's not proved massively successful it has to be said.
  - Steven Boyer: So would you say, then, that you mostly create the games that you would want to play?
  - Caspian Prince: Yes. I couldn't conceive of writing a game I wouldn't enjoy playing, hence, no platformers.
  - Steven Boyer: So in hoping for that overlap, how you do you determine what projects make sense to release publicly and on what platforms, for what price, etc?
  - Caspian Prince: I rarely get that far with it. Normally after a few months work on something it turns out my idea of fun isn't fun, and the project gets canned. Usually we salvage bits of it and recycle it into a new idea. Rinse, repeat. Eventually a game emerges.
    - ***Interview Format – Skype***

- **When in the production process does conceptualisation occur and how are these conceptions circulated amongst the production team? What features of these players are described or taken into consideration (global/local, cultural, expertise/skills, identity, behaviour, market segment)? In what ways do conceptions impact design and production decisions?**
    - Steven Boyer:... As a team, do you sit down and try to have a meeting, or some sort of designed audience when you're making a game?
    - Brenda Romero: Well we already know who our audience is, right? The audience comes to the platform.... That said, you could say, you know 'There's tons of games out there for women, why don't we make games for the hardcore male players.' You know, we could do something like that. But in this case, we wanted to go with the broad Facebook demographic, so no, there wasn't actually a meeting...
    - ...
    - Steven Boyer: In this whole process, where does your idea of the audience come into that...
    - Brenda Romero: So, it's already there, it's there at the beginning
    - Steven Boyer: So it's something you start with.
    - Brenda Romero: It's at the beginning. You have to know who you're designing for. It's one of the core constraints
    - Steven Boyer: So when they come with the platform, how do you know who is part of that platform. Do you read... reports? Do you just have kind of an inutitive sense of who is on Facebook?
    - Brenda Romero: Well everybody knows that the, well not everybody knows, but, uhm [pause]. I mean if you look at App Data, or Inside Social Games, or you know, the primary research on who is playing these games, it's the 40-year-old Facebook mom, 43-year-old woman, she's the new hardcore gamers, and that's who is playing these games.
        - ***Interview Format – In Person***

- **What types of interactions occur with actual players, and what are the benefits and limitations of these interactions?**
    - Steven Boyer: In what ways (and to what extent) do you interact with actual players during the production process? What do you see as the main benefits and limitations of this type of interaction (both for you and for players)? How does this impact your conception of your audience?
    - Jay Stuckwisch: We actually like to incorporate our audience in lots of ways, from allowing them to test early builds of the game to actually being in the game. In the instance of Gunstringer we invited our fans to join us to be included in most of the FMV footage throughout the game. Getting people

some hands on time with the games and familiarity with our company has been very beneficial to us, and we hope for them as well. We get to see first hand how people respond to what we are working on. It's something we really enjoy and hope to keep doing.

- ***Interview Format: Email***

Ludography

Aliens: Colonial Marines. (2013). Gearbox Software. Xbox 360, PlayStation 3, Microsoft Windows. Sega.

Army of Two: The Devil's Cartel. (2013). Visceral Montreal. Xbox 360, PlayStation 3. Electronic Arts.

Assassin's Creed. (2007). Ubisoft Montreal. Xbox 360, PlayStation 3, Microsoft Windows. Ubisoft.

Assassin's Creed II. (2009). Ubisoft Montreal. Xbox 360, PlayStation 3, Microsoft Windows, Mac OS X. Ubisoft.

Bastion. (2011). Supergiant Games. Xbox 360 (Xbox Live Arcade), Microsoft Windows, Mac OS X, Google Chrome, iOS, Linux. Warner Bros. Interactive Entertainment.

Battlefield 1942. (2002). Digital Illusions CE. Microsoft Windows, Mac OS X. Electronic Arts, Aspyr Media.

Bejeweled. (2001). PopCap Games. Adobe Flash, Microsoft Windows. PopCap Games.

Bejeweled Blitz. (2010). PopCap Games. Microsoft Windows, Mac OS X, Smartphone, Tablet, Facebook, Xbox 360 (Xbox Live Arcade). PopCap Games.

Bioshock 2. (2010). 2K Marin. Xbox 360, PlayStation 3, Microsoft Windows, Mac OS X. 2K Games, Feral Interactive.

Call of Duty. (2003). Infinity Ward. Microsoft Windows, Mac OS X. Activision, Aspyr Media.

Call of Duty: Modern Warfare 3. (2011). Infinity Ward, Sledgehammer Games, Treyarch. Microsoft Windows, Xbox 360, PlayStation 3, Wii. Activision, Square Enix.

CityVille. (2010). Zynga. Facebook, Google Plus, Tencent, Internet. Zynga.

Civilization V. (2010). Firaxis Games. Microsoft Windows, Mac OS X. 2K Games and Aspyr Media.

Command & Conquer. (1995). Westwood Studios. MS-DOS. Virgin Interactive.

Command & Conquer. (2013). Victory Games. Microsoft Windows. Electronic Arts.

Counter-Strike. (2000). Valve Corporation. Microsoft Windows, Mac OS X, Linux, Xbox. Valve Corporation.

Deus Ex: Human Revolution. (2011). Eidos Montreal. Xbox 360, PlayStation 3, Microsoft Windows, Mac OS X. Square Enix, Feral Interactive.

Diablo. (1996). Blizzard North. Microsoft Windows, Mac OS X, PlayStation. Blizzard Entertainment, Ubisoft, Electronic Arts.

Diablo III. (2012). Blizzard Entertainment. Microsoft Windows, Mac OS X. Blizzard Entertainment.

Doom. (1993). id Software. MS-DOS. id Software.

Dota 2. (2013). Valve Corporation. Microsoft Windows, Mac OS X, Linux. Valve Corporation, Perfect World, Nexon Co.

Dragon Age: Origins. (2009). BioWare Edmonton. Xbox 360, PlayStation 3, Microsoft Windows, Mac OS X. Electronic Arts.

Dragon Age II. (2011). BioWare. Xbox 360, PlayStation 3, Microsoft Windows, Mac OS X. Electronic Arts.

Dragon Age: Inquisition. (2014). BioWare. Xbox 360, PlayStation 3, Xbox One, PlayStation 4, Microsoft Windows, Mac OS X. Electronic Arts.

Draw Something. (2012). Omgpop. Smartphone, Tablet. Omgpop, Zynga.

Droid Assault. (2008). Puppygames. Microsoft Windows, Mac OS X, Linux. Puppygames.
F.E.A.R. (2005). Monolith Productions. Microsoft Windows, Xbox 360, PlayStation 3. Vivendi Universal.
FarmVille. (2009). Zynga. Facebook, Adobe Flash, HTML 5, iOS, Internet. Zynga.
Fez. (2012). Polytron Corporation. Xbox 360 (Xbox Live Arcade), Microsoft Windows, Mac OS X, Linux. Microsoft Studios, Trapdoor, Inc., Polytron Corporation.
FIFA International Soccer. (1993). Electronic Arts. PC, Sega Mega Drive, Sega Genesis, Super Nintendo Entertainment System, Sega Game Gear, MS-DOS, Amiga, 3DO, Game Gear. Electronic Arts.
Flock! (2010). Proper Games. Microsoft Windows, Xbox 360 (Xbox Live Arcade), PlayStation 3 (PlayStation Network). Capcom.
Flower. (2009). Thatgamecompany. PlayStation 3 (PlayStation Network). Sony Computer Entertainment.
FrontierVille (The Pioneer Trail). (2010). Zynga East. Facebook, Internet. Zynga.
Ghost Recon: Commander. (2012). Loot Drop. Facebook. Ubisoft.
Gone Home. (2013). The Fullbright Company. Microsoft Windows, Mac OS X, Linux. The Fullbright Company.
Grand Theft Auto. (1997). DMA Design. MS-DOS, PlayStation, Microsoft Windows, Game Boy Color. Take-Two Interactive.
Gunstringer, The. (2011). Twisted Pixel Games. Xbox 360. Microsoft Studios.
Half-Life. (1998). Valve Corporation. Microsoft Windows, Mac OS X, Linux, PlayStation 2. Sierra Entertainment.
Halo: Combat Evolved. (2001). Bungie. Xbox, Microsoft Windows, Mac OS X. Microsoft Game Studios, MacSoft.
Hard Lines. (2011). Spilt Milk Studios. Smartphone, Tablet. Spilt Milk Studios.
Hunted: The Demon's Forge. (2011). inXile Entertainment. Microsoft Windows, Xbox 360, PlayStation 3. Bethesda Softworks.
Jagged Alliance. (1994). Madlab Software. MS-DOS. Sir-tech Software.
John Madden Football. (1988). Electronic Arts. Apple II, MS-DOS, Commodore 64, Commodore 128. Electronic Arts.
Journey. (2012). Thatgamecompany. PlayStation 3 (PlayStation Network). Sony Computer Entertainment.
Just Dance. (2009). Ubisoft Paris. Wii. Ubisoft.
Kohan: Immortal Sovereigns. (2001). TimeGate Studios. Microsoft Windows, Linux. Strategy First.
League of Legends. (2009). Riot Games. Microsoft Windows, Mac OS X. Riot Games, Tencent Holdings, Garena.
Left 4 Dead. (2008). Turtle Rock Studios, Valve South. Microsoft Windows, Mac OS X, Xbox 360. Valve Corporation, Electronic Arts.
Lego Star Wars: The Video Game. (2005). Traveller's Tales. Xbox, PlayStation 2, GameCube, Game Boy Advance, Microsoft Windows, Mac OS X. Eidos Interactive, Lucasarts.
LittleBigPlanet. (2008). Media Molecule. PlayStation 3. Sony Computer Entertainment Europe.
LittleBigPlanet 2. (2011). Media Molecule. PlayStation 3. Sony Computer Entertainment Europe.

Manhunt. (2003). Rockstar North. PlayStation 2, Xbox, Microsoft Windows. Rockstar Games.
Manhunt 2. (2007). Rockstar London, Rockstar Leeds, Rockstar Toronto, Rockstar Vienna. PlayStation 2, Microsoft Windows, PlayStation Portable, Wii. Rockstar Games.
Mass Effect. (2007). BioWare. Xbox 360, Microsoft Windows. Microsoft Game Studios, Electronic Arts.
Maw, The. (2009). Twisted Pixel Games. Xbox 360 (Xbox Live Arcade), Microsoft Windows. Microsoft Game Studios.
Medal of Honor: Warfighter. (2012). Danger Close Games. Xbox 360, PlayStation 3, Microsoft Windows. Electronic Arts.
Minecraft. (2011). Mojang. Microsoft Windows, Mac OS X, Linux. Mojang.
Need for Speed: The Run. (2011). EA Black Box. Xbox 360, PlayStation 3, Microsoft Windows. Electronic Arts, Sega.
Peggle. (2007). PopCap Games. Microsoft Windows, Mac OS X, Xbox 360 (Xbox Live Arcade), PlayStation 3 (PlayStation Network), Smartphone, Tablet, Mobile, Nintendo DS. PopCap Games.
Planescape: Torment. (1999). Black Isle Studios. Microsoft Windows. Interplay Entertainment.
Plum Crazy. (2011). Claymore Games. iOS. Claymore Games.
Portal. (2007). Valve Corporation. Microsoft Windows, Mac OS X, Linux, Xbox 360, PlayStation 3. Valve Corporation.
Portal 2. (2011). Valve Corporation. Microsoft Windows, Mac OS X, Linux, Xbox 360, PlayStation 3. Valve Corporation.
Prison Architect. Paid Alpha Release. (2012). Introversion Software. Microsoft Windows, Mac OS X, Linux. Introversion Software.
Ravenwood Fair. (2010). Lolapps. Facebook. Lolapps.
Revenge of the Titans. (2010). Puppygames. Microsoft Windows, Mac OS X, Linux. Puppygames.
Section 8. (2009). TimeGate Studios. Microsoft Windows, PlayStation 3, Xbox 360. SouthPeak Interactive, TimeGate Studios.
SimCity. (1989). Maxis. Amiga, Atari, Commodore 64, Macintosh, MS-DOS, ZX Spectrum. Maxis, Broderbund, Infogrames.
SimCity. (2013). Maxis. Microsoft Windows, Mac OS X. Electronic Arts.
Sims, The. (2000). Maxis. Microsoft Windows, Mac OS, PlayStation 2, Xbox, GameCube. Electronic Arts.
SingStar. (2004). SCE London Studio. PlayStation 2. Sony Computer Entertainment.
Sir, You Are Being Hunted. Paid Alpha Release. (2012). Big Robot. Microsoft Windows, Mac OS X, Linux. Big Robot.
Skylanders: Spyro's Adventure. (2011). Toys For Bob. Xbox 360, PlayStation 3, Wii, Microsoft Windows, Mac OS X, Nintendo 3DS. Activision, Neoplay, Square Enix, Toys “R” Us.
Spec Ops: The Line. (2012). Yager Development. Xbox 360, PlayStation 3, Microsoft Windows. 2K Games.
Spider-Man. (2002). Treyarch. PlayStation 2, Xbox, GameCube, Game Boy Advance, Microsoft Windows. Activision, Capcom.
'Splosion Man. (2009). Twisted Pixel Games. Xbox 360 (Xbox Live Arcade). Microsoft Game Studios.

Starcraft. (1998). Blizzard Entertainment. Microsoft Windows, Mac OS. Blizzard Entertainment.
Starcraft II: Wings of Liberty. (2010). Blizzard Entertainment. Microsoft Windows, Mac OS X. Blizzard Entertainment.
Super Solitaire. (2009). Claymore Games. Mobile. PlayerX, Zed Worldwide.
Team Fortress Classic. (1999). Valve Corporation. Microsoft Windows, Mac OS X, Linux. Sierra Studios.
Tom Clancy's Rainbow Six. (1998). Red Storm Entertainment. Microsoft Windows, Mac OSX, Nintendo 64, PlayStation, Dreamcast, Game Boy Color. Red Storm Entertainment.
Train. (2009). Brenda Romero. Non-digital game.
Ultima I: The First Age of Darkness. (1981). Richard Garriott. Apple II. California Pacific Computer Company.
Wasteland. (1998). Interplay Productions. MS-DOS, Apple II, Commodore 64. Electronic Arts.
Wizardy: Proving Grounds of the Mad Overlord. (1981). Sir-Tech Software. MS-DOS, Apple II, Commodore 64. Sir-Tech Software.
Words With Friends. (2009). Zynga with Friends. Smartphone, Tablet, Facebook. Zynga.
World of Warcraft. (2004). Blizzard Entertainment. Microsoft Windows, Mac OS X. Blizzard Entertainment.

Glossary of Abbreviations

AAA	"Triple A." Common reference for high budget, high production value, "blockbuster" digital games.
API	Application Programming Interface.
ARPU	Average Revenue Per User.
ARPPU	Average Revenue Per Paying User.
BBC	British Broadcasting Corporation.
BRIC	Brazil, Russia, India, China. A common industrial reference to growing consumer electronics markets.
CEO	Chief Executive Officer.
COO	Chief Operating Officer.
CGI	Computer-Generated Imagery
DAU	Daily Active Users.
DFC	DFC Intelligence. US digital game market research company.
DICE	Digital Illusions Creative Entertainment. Swedish game developer owned by EA.
DLC	Downloadable Content.
DMCA	Digital Millennium Copyright Act. US 1998.
DRM	Digital Rights Management.
EA	Electronic Arts.
EGDF	European Game Developers Federation. An EU digital games industry trade body.
ESA	Entertainment Software Association. US digital games industry trade body.
EULA	End User Licensing Agreement.
FTC	Federal Trade Commission. US government agency.
GfK	The GfK Group. Gesellschaft für Konsumforschung. A German market research company, primary tracker of digital game sales information in the UK.
GLBT	Gay, Lesbian, Bisexual, Transgender.
GPS	Global Positioning System.
IGDA	International Game Developers Association.

IHS	IHS Inc. Information Handling Services. A US market research company.
iOS	iPhone Operating System.
ISFE	Interactive Software Federation of Europe. EU digital games industry trade body.
MAU	Monthly Active Users.
MMO	Massively Multiplayer Online. Game genre that involves a large persistent online world in which a large number of players interact with one another.
MMORPG	Massively Multiplayer Online Role-Playing Game.
NDA	Non-Disclosure Agreement.
NESTA	National Endowment for Science, Technology and the Arts. UK lottery funded charity.
NPD	The NPD Group. Market research company, primary tracker of sales information in the US.
NTSC	National Television System Committee, television encoding standard in large portions of the world including North America.
OfCom	Office of Communications. UK media regulator.
PAL	Phase Alternating Line. Television encoding standard in large portions of the world including most of Europe.
PC	Personal Computer. Typically used to reference computers running Microsoft Windows.
PEGI	Pan European Game Information. Content rating system for digital games released in Europe.
PM	Product Manager.
PSN	PlayStation Network.
RPG	Role-Playing Game.
SCE	Sony Computer Entertainment.
TIGA	The Independent Games Developers Association. UK digital games industry trade body.
UKIE	The Association for UK Interactive Entertainment. UK digital games industry trade body.
XBLA	Xbox Live Arcade.

References

Aarseth, E., 1997. *Cybertext: Perspectives on Ergodic Literature*. Baltimore, MD: Johns Hopkins University Press.

Aarseth, E., 2001. Computer Game Studies, Year One. *Game Studies* 1 (1). http://www.gamestudies.org/0101/editorial.html.

Adams, E.W., 2006. Introduction. In Bateman, C., and Boon, R., eds. *21st Century Game Design.* Boston, MA: Cenage Learning, xii-xvi.

Adler, T., 2004. *The Producers: Money, Movies and Who Really Call the Shots*. London, UK: Methuen.

Alasuutari, P., 1999. Introduction: Three Phases of Reception Studies. In Alasuutari, P., ed. *Rethinking the Media Audience*. London, UK: Sage, 1-21.

Albrectslund, A., 2010. Gamers Telling Stories: Understanding Narrative Practices in an Online Community. *Convergence* 16 (1.1), 112–124.

Allen, R., 2011. The Unreal Enemy of America's Army. *Games and Culture* 6 (1), 38-60.

Althusser, L., 1971. Ideology and Ideological State Apparatuses (Notes Towards an Investigation). *Lenin and Philosophy and Other Essays*. Second Edition. Translated by Ben Brewster. New York, NY: Monthly Review Press, 127-186.

Anand, N. and Peterson, R.A., 2000. When Market Information Constitutes Fields: Sensemaking of Markets in the Commercial Music Field. *Organization Science* 11 (3), 270-284.

Anderson, C., Gentile, D., and Buckley, K., 2007. *Violent Video Game Effects on Children and Adolescents: Theory, Research, and Public Policy*. Oxford, UK: Oxford University Press.

Andrew, K., 2012. UK Devs on Kickstarter: Pitching to Crowdfunders Is Just Like Pitching to Publishers, Says Ste Pickford. *Pocketgamer.biz.* 12 October 2012. Accessed 10 January 2013. http://www.pocketgamer.biz/r/PG.Biz/Zee-3+news/news.asp?c=45740.

Ang, I., 1991. *Desperately Seeking the Audience*. London: Routledge.

Ang, I., 1995. The Nature of the Audience. In Downing, J., Mohammadi, A., and Sreberny, A., eds. *Questioning the Media: A Critical Introduction*. Second Edition. London: Sage, 207-220.

Anthropy, A., 2012. *Rise of the Videogame Zinesters: How Freaks, Normals, Amateurs, Artists, Dreamers, Drop-Outs, Queers, Housewives, and People Like You Are Taking Back an Art Form*. New York, NY: Seven Stories Press.

Arsenault, A., 2011. The Structure and Dynamics of Communications Business Networks in an Era of Convergence: Mapping the Global Networks of the Information Business. In Winseck, D. and Jin, D. Y., eds. *The Political Economies of Media: The Transformation of the Global Media Industries*. London and New York: Bloomsbury, 101-120.

Arvidsson, A. and Sandvik, K., 2007. Gameplay as Design: Uses of Computer Players' Immaterial Labour. In Stald, G. and Fetveit, A., eds. *Northern Lights: Film and Media Studies Yearbook* 5. London: Intellect, 89-104.

Avedon, E. and Sutton-Smith, B., 1971. *The Study of Games*. New York: Wiley.

Bagidikian, B., 1983. *The Media Monopoly.* Boston, MA: Beacon.

Bai, M., 2013. Thrown for a Curve in Rhode Island. *New York Times*. 20 April 2013. Accessed 10 May 2013. http://www.nytimes.com/2013/04/21/business/curt-schilling-rhode-island-and-the-fall-of-38-studios.html?pagewanted=all&_r=0.

Ballard, M., Wiest, J.R., 1996. Mortal Kombat (tm): The Effects of Violent Videogame Play on Males' Hostility and Cardiovascular Responding. *Journal of Applied Social Psychology* 26 (8), 717-730.

Balnaves, M. and O'Regan, T., 2002. Introduction. In Balnaves, M., O'Regan, T., and Sternberg, J., eds. *Mobilising the Audience*. Queensland, Australia: University of Queensland Press, 1-9.

Banks, J., 2002. Gamers as Co-Creators: Enlisting the Virtual Audience – A Report from the Net Face. In Balnaves, M., O'Regan, T., and Sternberg, J., eds. *Mobilising the Audience*. Queensland, Australia: University of Queensland Press, 188-213.

Banks, J. and Potts, J., 2010. Co-Creating Games: A Co-Evolutionary Analysis. *New Media & Society* 12 (2), 253-270.

Barker, M. and Patley, J, 1997. *Ill Effects: The Media/Violence Debate*. London: Routledge.

Barnes, B. and Thomson, L., 1994. Power to the People (meter): Audience Measurement Technology and Media Specialization. In Ettema, J.S. and Whitney, D.C., eds. *Audiencemaking: How the Media Create the Audience*. Thousand Oaks, CA: Sage, 75-94.

Bartle, R. 2004. *Designing virtual worlds*. Indianapolis, IN: New Riders.

Barton, A., 2001. Paul Lazarsfeld as Institutional Innovator. *International Journal of Public Opinion Research* 13 (3), 245-269.

Bastal, 2011. Bioware Neglected Their Main Demographic: The Straight Male Gamer. *Bioware Official Forums*. 25 March 2011. Accessed 31 March 2011. Message posted to http://social.bioware.com/forum/1/topic/304/index/6661775.

Beck, D., 2012. IwillDominate Tribunal Permaban & eSports Competition Ruling. *League of Legends Community Forums*. Riot Games. 12 April 2012. Accessed 25 April 2012. Message posted to http://na.leagueoflegends.com/board/showthread.php?t=2864421.

Benkler, Y., 2006. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven, CN: Yale University Press.

Berry, N., 2011. Social Genetics: The Demographics and Affinities of Facebook Gamers. GDC 2011 Presentation. Accessed 7 July 2013. http://www.gdcvault.com/play/1014458/Social-Genetics-The-Demographics-and.

Beville, H. M., 1985. *Audience Ratings: Radio, Television, and Cable*. Hillsdale, NJ: L. Erlbaum Associates.

Blackden, R., 2010. Call of Duty Maker Activision Blizzard Could Quit Britain Over 'Terrible Mistake' on Video Game Tax. *The Telegraph*. 2 January 2010. Accessed 5 October 2012. http://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/leisure/8233861/Call-of-Duty-maker-Activision-Blizzard-could-quit-Britain-over-terrible-mistake-on-video-game-tax.html.

Blevins, J. L., and Anton, F., 2008. Muted Voices in the Legislative Process: The Role of Scholarship in US Congressional Efforts to Protect Children from Internet Pornography. *New Media and Society* 10 (1), 115-138.

Blizzard Entertainment, 2008. Patch 3.0.2. *World of Warcraft Game Guide.* Blizzard Entertainment. 15 October 2008. Accessed 12 March 2013. http://us.battle.net/wow/en/game/patch-notes/3-0-2.

Blizzard Entertainment, 2012a. Call to Action: Balance Testing. *Starcraft II Blog.* Blizzard Entertainment. 8 August 2012. Accessed 12 March 2013. http://eu.battle.net//sc2/en/blog/5617276.

Blizzard Entertainment, 2012b. Call to Action: Balance Testing. *Starcraft II Blog.* Blizzard Entertainment. 21 November 2012. Accessed 12 March 2013. http://eu.battle.net//sc2/en/blog/6565252.

Blizzard Entertainment, 2013a. Call to Action: Heart of the Swarm Beta Leveling. *Starcraft II Blog.* Blizzard Entertainment. 28 January 2013. Accessed 12 March 2013. http://eu.battle.net//sc2/en/blog/7104832.

Blizzard Entertainment, 2013b. Call to Action: Replay Feature Testing. *Starcraft II Blog.* Blizzard Entertainment. 13 February 2013. Accessed 12 March 2013. http://eu.battle.net//sc2/en/blog/7287194.

Blumler, J., and Katz, E., eds., 1974. *The Uses of Mass Communication: Current Perspectives on Gratifications Research*. New York, NY: Sage.

Boellstorff, T., 2006. A Ludicrous Discipline? Ethnography and Game Studies. *Games and Culture* 1 (1), 29-35.

Boellstorff, T., 2008. *Coming of Age in Second Life: An Anthropologist Explores the Virtually Human*. Princeton, NJ: Princeton University Press.

Bogost, I., 2006. Comparative Video Game Criticism. *Games and Culture* 1 (1), 41-46.

Bogost, I., 2011. Persuasive Games: Exploitationware. *Gamasutra.* 3 May 2011. Accessed 23 September 2012. http://www.gamasutra.com/view/feature/6366/persuasive_games_exploitationware.php.

Bogost, I., 2012. Kickstarter: Crowdfunding Platform or Reality Show. *Fast Company*. 18 July 2012. Accessed 8 October 2012. http://www.fastcompany.com/1843007/kickstarter-crowdfunding-platform-or-reality-show.

Bourdieu, P., 1984. *Distinction: A Social Critique of the Judgement of Taste*. Translated by Nice, R. London: Routledge.

Bourdieu, P., 1986. The Forms of Capital. In Richardson, J., ed. *Handbook of Theory and Research for the Sociology of Education*. New York, NY: Greenwood, 241-258.

Bourdieu, P. 1993. *The Field of Cultural Production: Essays on Art and Literature*. Johnson, R., ed. Cambridge: Polity Press.

Boyer, S., 2009. *L337 Soccer Moms: Conceptions of "Hardcore" and "Casual" in the Digital Games Medium*. M.A. Thesis. Atlanta, GA: Georgia State University.

Boyle, R. and Hibberd, M., 2005. Review of Research on the Impact of Violent Computer Games on Young People. *Stirling Media Research Institute*. Accessed 8 October 2012. http://www.isfe.eu/sites/isfe.eu/files/stirling_university_violence_final_report.pdf.

Bradshaw, L., 2013. SimCity Update: Straight Answers from Lucy. *EA Blog: The Beat.* 15 March 2013. Accessed 5 May 2013. http://www.ea.com/news/simcity-update-straight-answers-from-lucy.

Bramwell, T., 2009. Not Sony's David Reeves. *Eurogamer*. 1 May 2009. Accessed 5 May 2013. http://www.eurogamer.net/articles/not-sonys-david-reeves-interview.

Brathwaite, B., and Schreiber, I., 2009. *Challenges for Game Designers*. Boston, MA: Course Technology.

Brightman, J., 2012. EA is Going to Be a 100 Percent Digital Company Says Gibeau. *GamesIndustry International.* 2 July 2012. Accessed 5 May 2013. http://www.gamesindustry.biz/articles/2012-07-02-ea-is-going-to-be-a-100-percent-digital-company-period-says-gibeau.

Brooker, W., 2001. The Many Lives of the Jetman: A Case Study in Video Game Analysis. *Intensities: The Journal of Cult Media* 2. Accessed 8 October 2012. http://www.intensities.org/Essays/Brooker_Jetman.pdf.

Brown, S. J., et al., 1997. Educational Video Game for Juvenile Diabetes: Results of a Controlled Trial. *Informatics for Health and Social Care* 22 (1), 77-89.

Bruns, A., 2008. *Blogs, Wikipedia, Second life, and Beyond: From Production to Produsage.* New York: Peter Lang.

Buckingham, D., 2008. The Impact of the Media on Children and Young People with a Particular Focus on the Internet and Video Games. Prepared for *The Byron Review on Children and New Technology*. With contributions from Dr Natasha Whiteman, Dr Rebekah Willett and Dr Andrew Burn. Accessed 21 November 2010. www.dcsf.gov.uk/byronreview.

Burns, T., 1969. Public Service and Private World. In Halmos, P., ed. *The Sociology of Mass Media Communicators*. Keele, UK: University of Keele, 53-73.

Buzzard, K., 1990. *Chains of Gold: Marketing the Ratings and Rating the Markets*. Metuchen, NJ: Scarecrow Press.

Buzzard, K. 1992. *Electronic Media Ratings: Turning Audiences Into Dollars and Sense*. Boston, MA: Focal Press.

Buzzard, K., 2002. The Peoplemeter Wars: A Case Study of Technological Innovation and Diffusion in the Ratings Industry. *Journal of Media Economics* 15 (4), 273-291.

Byron, T., 2008. *Safer Children in a Digital World: The Report of the Byron Review*. Accessed 21 November 2010. www.dcsf.gov.uk/byronreview.

Caillois, R., 1961. *Man, Play, and Games*. Translated by Meyer Barash. Urbana and Chicago, IL: University of Illinois Press.

Callon, M., 1991. Techno-Economic Networks and Irreversibility. In Law, J. ed. *A Sociology of Monsters: Essays on Power, Technology and Domination.* London, UK: Routledge. 132-164.

Campbell, J.L. and Pedersen, O.K., 2001. The Rise of Neoliberalism and Institutional Analysis. In Campbell, J.L. and Pederson, O.K., eds. *The Rise of Neoliberalism and Institutional Analysis*. Princeton, NJ: Princeton University Press, 1-24.

Canada Revenue Agency, 2008. Overview of the Scientific Research and Experimental Development (SR&ED) Tax Incentive Program. Government of Canada. Accessed 24 April 2013. http://www.cra-arc.gc.ca/E/pub/tg/rc4472/rc4472-08e.pdf.

Cantor, M., 1971. *The Hollywood TV Producer: His Work and His Audience*. New York: Basic Books.

Caoili, E., 2010. EA to Sell In-Game Ads Directly. *Gamasutra*. 12 March 2010. Accessed 15 February 2012. http://www.gamasutra.com/view/news/27632/EA_To_Sell_InGame_Ads_Directly.php.

Caoili, E., 2011. In-Game Ad Firm IGA Shifts Priorities, Lays Off Staff. *Gamasutra*. 12 December 2011. Accessed 10 January 2012.

http://www.gamasutra.com/view/news/39091/Ingame_Ad_Firm_IGA_Shifts_Priorities_Lays_Off_Staff.php.

Caoili, E., 2102a. Crowdfunding Inspires Namco Bandai's Preorder Experiment. *Gamasutra*. 20 July 2012. Accessed 20 September 2012. http://www.gamasutra.com/view/news/174494/Crowdfunding_inspires_Namco_Bandais_preorder_experiment_.php.

Caoili, E., 2012b. EA's Origin Attracting Crowdfunded Projects with Free Distribution. *Gamasutra*. 18 May 2012. Accessed 20 September 2012. http://gamasutra.com/view/news/170621/EAs_Origin_attracting_crowdfunded_projects_with_free_distribution.php.

Caoili, E. and Rose, M., 2012. MDK2 Console Dev Done with Nintendo after WiiWare Loss, 9-month Certification. *Gamasutra*. 17 April 2012. Accessed 21 May 2012. http://www.gamasutra.com/view/news/168721/MDK2_console_dev_done_with_Nintendo_after_WiiWare_loss_9month_certification.php.

Carlson, M., 2006. Tapping into TiVo: Digital Video Recorders and the Transition from Schedules to Surveillance in Television. *New Media and Society* 8 (1), 97-115.

Carlson, R. and Corliss, J., 2011. Imagined Commodities: Video Game Localization and Mythologies of Cultural Difference. *Games and Culture* 6 (1), 61-82.

Castells, M., 1996. *The Rise of the Network Society*. Malden, MA: Blackwell.

Chapple, C., 2012. Obsidian Accuses Publishers of Abusing Kickstarter. *Develop*. 19 September 2012. Accessed 25 September 2012. http://www.develop-online.net/news/42017/Obsidian-accuses-publishers-of-abusing-Kickstarter.

Chee, F., 2006. The Games We Play Online and Offline: Making Wang-tta in Korea. *Popular Communication* 4 (3), 225–239.

Cheshire, T., 2012. Test. Test. Test.: How Wooga Turned the Games Business into a Science. *Wired*. 5 January 2012. Accessed 13 March 2012. http://www.wired.co.uk/magazine/archive/2012/01/features/test-test-test?page=all.

Christopherson, S. and Rightor, N., 2010. The Creative Economy as “Big Business”: Evaluating State Strategies to Lure Filmmakers. *Journal of planning education and research* 29 (3), 336-352.

Chu, H., 2012. The iPhone's Siri Doesn't Seem So Smart in Scotland. *Los Angeles Times*. 31 January 2012. Accessed 15 May 2013. http://articles.latimes.com/2012/jan/31/world/la-fg-scotland-siri-20120131.

Cifaldi, F., 2011a. Analyst: Game Ad Spend Will More Than Double By 2016. *Gamasutra*. 13 September 2011. Accessed 10 January 2012. http://www.gamasutra.com/view/news/37190/Analyst_Game_Ad_Spend_Will_More_Than_Double_By_2016.php.

Cifaldi, F., 2011b. PSN Attacks Prompt New Australian Privacy Laws. *Gamasutra*. 2 May 2011. Accessed 3 June 2012. http://www.gamasutra.com/view/news/34452/PSN_Attacks_Prompt_New_Australian_Privacy_Laws.php.

Cifaldi, F., 2013. PlayStation Bets the Farm That 'True Gamers' Are Enough to Sell Its New Machine. *Gamasutra*. 22 February 2013. Accessed 15 May 2013. http://www.gamasutra.com/view/news/187186/PlayStation_bets_the_farm_that_true_gamers_are_enough_to_sell_its_new_machine.php.

Conditt, J., 2011. GameStop Giving Customers a $50 Gift Card, Other Perks for Human Revolution Flub. *Joystiq*. 26 August 2011. Accessed 30 August 2011. http://www.joystiq.com/2011/08/26/gamestop-deus-ex-apology/#.

Consalvo, M., 2003. Zelda 64 and Video Game Fans: A Walkthrough of Games, Intertextuality, and Narrative. *Television and New Media* 4 (3), 321-334.

Consalvo, M., 2006. Console Video Games and Global Corporations: Creating a Hybrid Culture. *New Media & Society* 8 (1), 117-137.

Consalvo, M., 2007. *Cheating: Gaining Advantage in Videogames*. Cambridge, MA: MIT Press.

Constine, J., 2012. Zynga Shares Go on Wild Ride During Facebook IPO – Big Fall, Then Recovery [Updated]. *TechCrunch.* 18 May 2012. Accessed 14 June 2012. http://techcrunch.com/2012/05/18/zynga-share-price-facebook-ipo/.

Cook, D., 2012. Prison Architect Interview: Putting the Triple-A Market on Trial. *VG24/7*. 29 October 2012. Accessed 1 November 2012. http://www.vg247.com/2012/10/29/prison-architect-putting-the-triple-a-market-on-trial/.

Costikyan, G., 2002. I Have No Words & I Must Design: Towards a Critical Vocabulary for Games. In *Computer Games and Digital Cultures Conference Proceedings*. Tampere: Tampere University Press, 9-33. Accessed 8 May 2013. http://www.costik.com/nowords2002.pdf.

Crawford, G. and Rutter, J., 2007. Playing the Game: Performance in Digital Game Audiences. In *Fandom: Identities and Communities in a Mediated World*. Gray, J., Sandvoss, C., and Harrington, C., eds. New York, NY: NYU Press, 271-281.

Crecente, B., 2011a. Be Your Own Game Producer with Kotaku's Kickstarter Picks. *Kotaku.* 25 November 2011. Accessed 26 November 2011. http://kotaku.com/5846656/be-your-own-game-producer-with-kotakus-kickstarter-picks.

Crecente, B., 2011b. FBI Cybercrimes Joins 22 States in Sweeping PlayStation Network Investigation. *Kotaku*. 28 April 2011. Accessed 28 April 2011. http://kotaku.com/5796832/fbi-cybercrimes-joins-22-states-in-sweeping-sony-playstation-network-investigation.

Cumberbatch, G., 2001. *Video Violence: Villain or Victim?* Video Standards Council.

De Schutter, B., 2011. Never Too Old to Play: The Appeal of Digital Games to an Older Audience. *Games and Culture* 6 (2), 155-170.

Deuze, M., 2007. *Media Work*. Cambridge, UK: Polity Press.

Deuze, M., Martin, C. B., and Allen, C., 2007. The Professional Identity of Gameworkers. *Convergence* 13 (4), 335-353.

Dibbell, J., 1999. *My Tiny Life: Crime and Passion in a Virtual World*. London: Fourth Estate.

Donovan, T., 2010. *Replay: The History of Video Games.* East Sussex: Yellow Ant.

Donovan, T., 2011. "To Play or Not to Play?" *Gamasutra*. 27 September 2011. Accessed 28 September 2011. http://www.gamasutra.com/view/feature/6496/to_play_or_not_to_play.php.

Dormans, J., 2006. "On the Role of the Die: A Brief Ludologic Study of Pen-and-Paper Roleplaying Games and Their Rules." *Game Studies* 6 (1). http://gamestudies.org/0601/articles/dormans.

Dovey, J., & Kennedy, H. W., 2007. From Margin to Center: Biographies of Technicity and the Construction of Hegemonic Games Culture. In Williams, J.P. and Smith, J.H., eds., *The Players' Realm: Studies on the Culture of Video Games and Gaming*. Jefferson, NC: McFarland and Company, 131-153.

Drachen, A., and Veitch, R.W.D., 2013. Patterns in the Distribution of Digital Games via BitTorrent. *International Journal of Advanced Media and Communication* 5 (1), 80-99.

Dumbrell, J., 2009. The US-UK Special Relationship: Taking the 21st-Century Temperature. *British Journal of Politics & International Relations* 11 (1), 64-78.

Dyer-Witheford, N., and De Peuter, G., 2009. *Games of Empire: Global Capitalism and Video Games*. Minneapolis, MN: U of Minnesota Press.

Eastin, M.S., 2006. Video Game Violence and the Female Game Player: Self- and Opponent Gender Effects on Presence and Aggressive Thoughts. *Human Communication Research* 32 (3), 351-372.

Eckman, A. and Lindlof, T., 2003. Negotiating the Gray Lines: An Ethnographic Case Study of Organizational Conflict Between Advertorials and News. *Journalism Studies* 4 (1), 65-77.

Eglash, R., 2002. Nerd Identity as a Gatekeeper in Science and Technology Participation. *Social Text* 20 (2), 49-64.

Elliott, P., 1974. Uses and Gratifications Research: A Critique and a Sociological Alternative. In Blumler, J.G. and Katz, E., eds., The Uses of Mass Communications: Current Perspectives on Gratifications Research. Beverly Hills, CA: Sage, 249-268.

Ermi, L. and Mäyrä, F., 2005. "Player-Centered Game Design: Experiences in Using Scenario Study to Inform Mobile Game Design." *Game Studies* 5 (1). http://www.gamestudies.org/0501/ermi_mayra/.

ESA, 2013. Federal Issues. *Entertainment Software Association*. Accessed 24 April 2013. http://www.theesa.com/policy/federalissues.asp.

Escarpit, R., 1977. The Concept of "Mass." *Journal of Communication* 27 (2), 44-47.

Eskelinen, M. and Tronstad, R., 2003. Video Games as Configurative Performances. In Wolf, M.J.P. and Perron, B., eds. *The Video Game Theory Reader*. London, UK: Routledge, 195-220.

Ettema, J.S. and Whitney, D.C., 1994. The Money Arrow: An Introduction to Audiencemaking. In Ettema, J.S. and Whitney, D.C., eds. *Audiencemaking: How the Media Create the Audience.* Thousand Oaks, CA: Sage, 1-18.

European Commission, 2013. State Aid: UK Video Games Tax Relief Faces Commission Scrutiny. European Commission Press Release. 16 April 2013. Accessed 24 April 2013. http://europa.eu/rapid/press-release_IP-13-333_en.htm?locale=en.

Fahey, M., 2010. Denial of Service Attack Kills Ubisoft DRM, Your Assassin's Creed II Playtime. *Kotaku*. 8 March 2010. Accessed 8 March 2010. http://kotaku.com/5488372/denial-of-service-attack-kills-ubisoft-drm-your-assassins-creed-ii-playtime.

Federal Trade Commission, 2002. Marketing Violent Entertainment to Children: Self-Regulation and Industry Practices in the Motion Picture, Music Recording, and Electronic Game Industries. Prepared Statement of the Federal Trade Commission, presented by Lee Peeler. *Subcommittee on Telecommunications and the Internet, United States House of Representatives.* Accessed 15 May 2013. http://www.ftc.gov/os/2002/10/marketing021001.htm.

Ferguson, C.J., et al., 2008. Violent Video Games and Aggression: Causal Relationship or Byproduct of Family Violence and Intrinsic Violence Motivation? *Criminal Justice and Behavior* 35 (3), 311-332.

Fiske, J., 1992. The Cultural Economy of Fandom. In Lewis, L.A., ed. *The Adoring Audience: Fan Culture and Popular Media*. New York: Routledge, 30-49.

Foucault, M. 1977. *Discipline and Punish: The Birth of the Prison*. Translated by Sheridan, A. London: Penguin Books.

Foucault, M., 1979. *The History of Sexuality: Volume 1, An Introduction.* Translated by Hurley, R. London: Allen Lane.

Foucault, M., 1982. The Subject and Power. *Critical Inquiry* 8 (4), 777-795.

Foucault, M. 2001. *Power*. Faubion, J., ed. Translated by Hurley, R. et al. London: Allen Lane.

Frasca, G., 1999. "Ludology Meets Narratology: Similitude and Differences Between (Video)games and Narrative." *Parnasso 3*. Accessed 10 October 2010. http://www.ludology.org/articles/ludology.htm.

Freedman, J., 2002. *Media Violence and Its Effect on Aggression: Assessing the Scientific Evidence*. Toronto: University of Toronto Press.

Fullerton, T., Swain, C., and Hoffman, S., 2004. *Game Design Workshop: Designing, Prototyping, and Playtesting Games*. San Francisco, CA: CMP Books.

Gaider, D., 2011. Response to Bioware Neglected Their Main Demographic: The Straight Male Gamer. *Bioware Official Forums.* 25 March 2011. Accessed 31 March 2011. Message posted to http://social.bioware.com/forum/1/topic/304/index/6661775&lf=8.

Galloway, A., 2006. *Gaming: Essays on Algorithmic Culture*. Minneapolis, MN: University of Minnesota Press.

Galloway, S. and Dunlop, S., 2007. A Critique of Definitions of the Cultural and Creative Industries in Public Policy. *International Journal of Cultural Policy* 13 (1), 17-31.

Gans, H., 1957. The Creator-Audience Relationship in the Mass Media: An Analysis of Movie Making. In Rosenberg, B and White, D.M, eds. *Mass Culture: The Popular Arts in America*. New York: Free Press, 315-324.

Gans, H., 1974. *Popular Culture and High Culture: An Analysis and Evaluation of Taste*. New York, Basic Books.

Gans, H., 1980. *Deciding What's News: A Study of CBS Evening News, NBC Nightly News, Newsweek, and Time.* London, UK: Constable.

Garnham, N., 2005. From Cultural to Creative Industries: An Analysis of the Implications of the "Creative Industries" Approach to Arts and Media Policy Making in the United Kingdom. *International Journal of Cultural Policy* 11 (1), 15-29.

Gauntlett, D., 1996. *Video Critical.* Luton, UK: University of Luton Press.

Gauntlett, D., 1998. Ten Things Wrong with the Effects Tradition. In Dickinson, R., Harindranath, R., and Linne, O., eds. *Approaches to Audiences*. London, UK: Arnold, 120-130.

Gauntlett, D., 2005. *Moving Experiences: Media Effects and Beyond*. Eastleigh, UK: John Libbey.

Gauntlett, D., 2011. *Making is Connecting: The Social Meaning of Creativity, from DIY and Knitting to YouTube and Web 2.0*. Cambridge, UK: Polity Press.

Gee, J.P., 1999. *An Introduction to Discourse Analysis: Theory and Method*. London: Routledge.

Gee, J.P., 2003. *What Video Games Have to Teach Us About Learning and Literacy.* New York, NY: Palmgrave Macmillan.

Gelder, K. and Thornton, S., 1997. *The Subcultures Reader*. London: Routledge.

Gera, E., 2013. SimCity Mod Demonstrates the Possibility of Some Form of Indefinite Offline Play. *Polygon*. 14 March 2013. Accessed 14 March 2013. http://www.polygon.com/2013/3/14/4102966/simcity-mod-demonstrates-the-possibility-of-indefinite-offline-play.

Gibeau, F., 2013. Transition is Our Friend. *EA Blog: The Beat*. 21 February 2013. Accessed 24 April 2013. http://www.ea.com/news/transition-is-our-friend.

Gillard, P., 2002. Museum Visitors as Audiences: Innovative Research for Online Museums. In Balnaves, M., O'Regan, T., and Sternberg, J., eds. *Mobilising the Audience*. Queensland, Australia: University of Queensland Press, 168-187.

Gitlin, T., 1978. Media Sociology: The Dominant Paradigm. *Theory and Society* 6 (2), 205-253.

Gitlin, T., 1983. *Inside Prime Time*. New York, NY: Pantheon.

Glynn, M.A., 2006. Maestro or Manager? Examining the Role of the Music Director in a Symphony Orchestra. In Lampel, J., Shamsie, J., and Lant, T., eds. *The Business of Culture: Strategic Perspectives on Entertainment and Media.* Mahwah, NJ: Lawrence Erlbaum Associates, 57-70.

Gosling, V. and Crawford, G., 2011. Game Scenes: Theorizing Digital Game Audiences. *Games and Culture* 6 (2), 135-154.

Graft, K., 2010. In-depth: Why Was Blizzard's 'Real ID' Such an Issue? *Gamasutra.* 12 July 2010. Accessed 15 September 2011. http://www.gamasutra.com/view/news/29347/InDepth_Why_Was_Blizzards_Real_ID_Such_An_Issue.php.

Graft, K., 2013. New, Significant Layoffs Hit Electronic Arts. *Gamasutra*. 11 April 2013. Accessed 24 April 2013. http://www.gamasutra.com/view/news/190320/New_significant_layoffs_hit_Electronic_Arts.php.

Gramsci, A., 1971. *Selections from the Prison Notebooks*. Translated by Hoare, Q. and Smith, G.N. London: Lawrence and Wishart.

Gray, J., Sandvoss, C., and Harrington, C., eds., 2007. *Fandom: Identities and Communities in a Mediated World*. New York, NY: NYU Press.

Grossman, D., 2007 *Stop Teaching Our Kids to Kill: A Call to Action Against TV, Movie and Video Game Violence.* Oxford University Press.

Hachman, M., 2011. PlayStation Hack to Cost Sony $171M; Quake Costs Far Higher. *PCMag*. 23 May 2011. Accessed 10 April 2013. http://www.pcmag.com/article2/0,2817,2385790,00.asp.

Hagen, I., 1999. Slaves of the Ratings Tyranny? Media Images of the Audience. In Alasuutari, P., ed. *Rethinking the Media Audience.* London, UK: Sage.

Haines, L., 2004. Why Are There So Few Women in Games? Research for Media Training North West. Accessed 10 April 2013. http://archives.igda.org/women/MTNW_Women-in-Games_Sep04.pdf.

Hall, S., 1980. Encoding/Decoding. In Hall, S. et al., eds. *Culture, Media, Language*. London: Hutchinson, 128-138.

Hardt, M. and Negri, A., 2001. *Empire*. Cambridge, MA: Harvard University Press.

Hartley, J., 1987. Invisible Fictions: Television Audiences, Paedocracy, Pleasure. *Textual Practice* 1 (2), 121-138.

Hecker, C., 2010. Metrics Fetishism. *ChrisHecker.com.* 24 August 2010. Accessed 5 April 2013. http://chrishecker.com/Metrics_Fetishism.

Hebdige, D., 1979. *Subculture: The Meaning of Style*. London, UK: Metheun.

Herman, E., and Chomsky, N., 1988. *Manufacturing Consent: The Political Economy of the Mass Media*. New York, NY: Pantheon.

Hesmondhalgh, D., 2007. T*he Cultural Industries.* Second Edition. London, UK: Sage.

Hesmondhalgh, D., 2010. User-Generated Content, Free Labour and the Cultural Industries. *Ephemera: Theory and Politics in Organization* 10 (3-4), 267-284. Accessed 8 May 2013. http://www.ephemerajournal.org/sites/default/files/10-3hesmondhalgh.pdf.

Hesmondhalgh, D. and Baker, S., 2011. *Creative Labour: Media Work in Three Cultural Industries.* London, UK: Routledge.

Hibbett, R., 2005. What Is Indie Rock? *Popular Music and Society* 28 (1), 55-77.

Hill, J., 2012. 'This is for the *Batmans* as well as the *Vera Drakes*': Economics, Culture and UK Government Film Production Policy in the 2000s." *Journal of British Cinema and Television* 9 (3): 333-356.

Hill-Whittall, R., 2012. Nintendo & Digital Sales Data Secrecy. *Icon Games Entertainment News/Blog*. 5 January 2012. Accessed 9 January 2012. http://www.icongames.com/nintendo-digital-sales-data-secrecy/.

Hills, M., 2002. *Fan Cultures*. New York, NY: Routledge.

HM Revenue & Customs, 2012. Draft Clauses & Explanatory Notes for Finance Bill 2013. HM Treasury. 11 December 2012. Accessed 24 April 2013. http://www.hm-treasury.gov.uk/d/draft_clauses_and_ens_for_finance_bill_2013.pdf.

Holt, J., and Perren, A., 2009. *Media Industries: History, Theory, and Method*. West Sussex: Wiley-Blackwell.

Horkheimer, M. and Adorno, T., 1972. *Dialectic of Enlightenment*. Translated by Cumming, J. New York, NY: Herder and Herder.

Hryb, L., 2012. Live Activity for Week of August 27. *Major Nelson*. 6 September 2012. Accessed 12 September 2012. http://majornelson.com/2012/09/06/live-activity-for-week-of-august-27/.

Hudson, G. and Temple, M., 2010. We Are *Not* All Journalists Now. In Tunney, S. and Monaghan, G., eds. *Web Journalism:// A New Form of Citizenship?* Eastbourne, UK: Sussex Academic Press, 63-76.

Huizinga, J., 1949. *Homo Ludens: A Study of the Play Element in Culture.* London: Routledge.

Humphreys, S., 2009. Norrath: New Forms, Old Institutions. *Game Studies* 9 (1). http://gamestudies.org/0901/articles/humphreys.

IG.Ratana., 2012, April 26. Irrational Interviews 11: Amy Hennig. *Irrational Games Insider*. Audio Podcast. Accessed 26 April 2012. http://irrationalgames.com/insider/irrational-interviews-11-amy-hennig/.

Information Comissioner's Office, 2013. Sony Fined £250,000 After Millions of UK Gamers' Details Compromised. News Release. Information Commissioner's Office. 24 January 2013. Accessed 24 April 2013. http://www.ico.gov.uk/news/latest_news/2013/ico-news-release-2013.aspx.

International Game Developers Association, 2005. Game Developer Demographics: An Exploration of Workforce Diversity. Accessed 5 May 2013. http://www.igda.org/game-developer-demographics-report.

Jackson, S.E. and Dutton, J.E., 1988. Discerning Threats and Opportunities. *Administrative Science Quarterly* 33 (3), 370-387.

Jakobsson, M., 2011. The Achievement Machine: Understanding Xbox 360 Achievements in Gaming Practices. *Game Studies* 11 (1). http://gamestudies.org/1101/articles/jakobsson.

Jameson, F., 1990. *Signatures of the Visible*. New York: Routledge.

Jan, M., 2012. Congratulations, Your First Indie Game Is a Flop. *Gamasutra*. 27 June 2012. Accessed 27 June 2012. http://www.gamasutra.com/view/feature/173068/congratulations_your_first_indie_.php.

Jansz, J. and Martens, L., 2005. Gaming at a LAN Event: The Social Context of Playing Video Games. *New Media and Society* 7 (3), 333-355.

Jenkins, H., 2006a. *Convergence Culture: Where Old and New Media Collide*. New York, NY: NYU Press.

Jenkins, H., 2006b. *Fans, Bloggers, and Gamers: Exploring Participatory Culture*. New York, NY: NYU Press.

Jenkins, H., 1992. *Textual Poachers: Television Fans and Participatory Culture*. New York, NY: Routledge.

Jeppesen, L.B. and Molin, M.J., 2003. Consumers as Co-developers: Learning and Innovation Outside the Firm. *Technology Analysis & Strategic Management* 15 (3), 363-84.

Jhally, S. and Livant, B., 1986. Watching as Working: The Valorization of Audience Consciousness. *Journal of Communication* 36 (3): 124-143.

Jin, D.Y., 2010. *Korea's Online Gaming Empire*. Boston, MA: MIT Press.

Jin, D.Y., 2011. Deconvergence and Deconsolidation in the Global Media Industries: The Rise and Fall of (Some) Media Conglomerates. In Winseck, D. and Jin, D. Y., eds. *The Political Economies of Media: The Transformation of the Global Media Industries*. London and New York: Bloomsbury, 167-182.

Johns, J., 2006. Video Game Production Networks: Value Capture, Power Relations and Embeddedness. *Journal of Economic Geography* 6 (2), 151-180.

Joseph, D., 2012. *State Intervention, Videogames and the Public Sphere: A Critical Political economic analysis*. M.A. Thesis. Toronto, Ontario, Canada: Ryerson University and York University.

Juul, J., 2009. *A Casual Revolution: Reinventing Video Games and Their Players*. Cambridge, MA: MIT Press.

Juul, J., 2005. *Half-Real: Video Games between Real Rules and Fictional Worlds*. Cambridge, MA: MIT Press.

Kanayama, T., 2003. Ethnographic Research on the Experience of Japanese Elderly People Online. *New Media and Society* 5 (2), 267-288.

Kapsis, R., 1986. Hollywood Filmmaking and Audience Image. In Ball-Rokeach, S.J. and Cantor, M., eds. *Media, Audience, and Social Structure.* Beverly Hills, CA: Sage, 161-173.

Katz, E., 1987. Communication Research Since Lazarsfeld. *Public Opinion Quarterly* 51, 525–545.

Katz, J., 2013. eSports Competition Rulings: Suspensions of mouz enVision and aAa linak. *League of Legends Community Forums*. Riot Games. 20 January 2013. Accessed 24 April 2013. Message posted to http://eune.leagueoflegends.com/board/showthread.php?p=5032725#5032725.

Kendall, L., 1999. Nerd Nation: Images of Nerds in US Popular Culture. *International journal of cultural studies* 2 (2), 260-283.

Kent, R., 1994. *Measuring Media Audiences*. London, UK: Routledge.

Kent, S., 2001. *The Ultimate History of Video Games*. New York, NY: Three Rivers Press.

Kerr, A., 2002. Representing Users in the Design of Digital Games. In Mäyrä, F., ed. *Computer Games and Digital Cultures Conference Proceedings*. Tampere, Finland: University of Tampere Press. Accessed 5 May 2013. http://www.digra.org/dl/db/05164.06074.pdf.

Kerr, A., 2003. ~~Girls~~ Women Just Want to Have Fun: A Study of Adult Female Players of Digital Games. *Level Up Conference Proceedings*. Utrecht, Netherlands: University of Utrecht, 270-285. Accessed 5 May 2013. http://www.digra.org/wp-content/uploads/digital-library/05163.29339.pdf.

Kerr, A., 2006. *The Business and Culture of Digital Games: Gamework/Gameplay*. London: Sage.

Kerr, A., 2012. The UK and Irish Game Industries. In Zackariasson, P. and Wilson, T., eds. *The Video Game Industry: Formation, Present State, and Future*. New York, NY: Routledge, 116-133.

Kerr, A., 2013. Space Wars: The Politics of Games Production in Europe. In Huntemann, N. and Aslinger, B., eds. *Gaming Globally: Production, Play, and Place*. New York, NY: Palgrave Macmillan, 215-232.

Kerr, A. and Flynn, R., 2003. Revisiting Globalisation Through the Movie and Digital Game Industries. *Convergence* 9 (1), 91-113.

Keyton J. and Smith, F., 2006. Conflicts Over Creative Control: Power Struggle on Prime Time Television. In Lampel, J., Shamsie, J., and Lant, T., eds. *The Business of Culture: Strategic Perspectives on Entertainment and Media*. Mahwah, NJ: Lawrence Erlbaum Associates, 27-40.

Kickstarter, 2012a. Double Fine Adventure. Double Fine and 2 Player Productions. *Kickstarter Inc.* 14 March 2012. Accessed 24 April 2013. http://www.kickstarter.com/projects/doublefine/double-fine-adventure.

Kickstarter, 2012b. OUYA: A New Kind of Video Game Console. OUYA. *Kickstarter, Inc.* 9 August 2012. Accessed 24 April 2013. http://www.kickstarter.com/projects/ouya/ouya-a-new-kind-of-video-game-console.

Kickstarter, 2012c. Project Eternity. Obsidian Entertainment. *Kickstarter, Inc.* 17 October 2012. Accessed 24 April 2013. http://www.kickstarter.com/projects/obsidian/project-eternity.

Kickstarter, 2013a. Elite: Dangerous. Frontier Developments. *Kickstarter, Inc.* 5 January 2013. Accessed 24 April 2013. http://www.kickstarter.com/projects/1461411552/elite-dangerous.

Kickstarter, 2013b. GameStick: The Most Portable TV Games Console Ever. PlayJam. *Kickstarter, Inc.* 1 February 2013. Accessed 24 April 2013. http://www.kickstarter.com/projects/872297630/gamestick-the-most-portable-tv-games-console-ever.

Kickstarter, 2013c. Shroud of the Avatar: Forsaken Virtues. Portalarium, Inc. *Kickstarter, Inc.* 7 April 2013. Accessed 24 April 2013. http://www.kickstarter.com/projects/portalarium/shroud-of-the-avatar-forsaken-virtues-0.

Kickstarter, 2013d. Torment: Tides of Numenera. inXile Entertainment. *Kickstarter, Inc.* 6 April 2013. Accessed 24 April 2013. http://www.kickstarter.com/projects/inxile/torment-tides-of-numenera.

Kirkpatrick, G., 2012. Constitutive Tensions of Gaming's Field: UK Gaming Magazines and the Formation of Gaming Culture 1981-1995. *Game Studies* 12 (1). http://gamestudies.org/1201/articles/kirkpatrick.

Klepek, P., 2010. Relationship Status: It's Complicated. *EGM[I]* 240 (1), 9-12, 10 August 2010. Accessed 5 May 2013. http://www.egmmag.com/egmi/issue/240-1.html.

Kline, S., Dyer-Witheford, N., and De Peuter, G., 2003. *Digital Play: The Interaction of Technology, Culture, and Marketing*. Montreal: McGill-Queen's University Press.

Kolo, C. and Baur, T., 2004. Living a Virtual Life: Social Dynamics of Online Gaming. *Game Studies* 4 (1). http://www.gamestudies.org/0401/kolo/.

Koster, R., 2008. Do Players Know What They Want? *Raph Koster's Website.* 2 July 2008. Accessed 8 May 2013. http://www.raphkoster.com/2008/07/02/do-players-know-what-they-want/.

Kowert, R., Griffiths, M., and Oldmeadow, J., 2012. Geek or Chic? Emerging Stereotypes of Online Gamers. *Science, Technology & Society* 32 (6), 471-479.

Krotoski, A., 2004. *Chicks and Joysticks: An Exploration of Women and Gaming.* London: Entertainment and Leisure Software Publishers Association.

Krotoski, A., 2012. The Culture of Gaming. Episode 1. *Your World*. BBC World Service Documentaries. 18 August 2012. Accessed 12 September 2012. http://www.bbc.co.uk/programmes/p00wq5md.

Krpata, M., 2011. Review: LittleBigPlanet 2. *Boston Phoenix.* 8 August 2011. Accessed 9 August 2011. http://thephoenix.com/boston/recroom/115344-littlebigplanet-2/.

Kuchera, B., 2012a. Going Broke with Success: How an App with 200,000 Downloads Led to Developer Homelessness. *The Penny Arcade Report*. 15 August 2012. Accessed 18 August 2012. http://penny-arcade.com/report/editorial-article/going-broke-with-success-how-an-app-with-200000-downloads-led-to-devel.

Kuchera, B., 2012b. The $40,000 Patch? Fez Won't be Fixed, but Blaming Microsoft is Only Half the Story. *The Penny Arcade Report*. 19 July 2012. Accessed 19 July 2012. http://penny-arcade.com/report/editorial-article/the-40000-patch-fez-wont-be-fixed-but-blaming-microsoft-is-only-half-the-st.

Kücklich, J., 2005. Precarious Playbour: Modders and the Digital Games Industry. *The Fibreculture Journal* 5. Accessed 8 May 2013. http://five.fibreculturejournal.org/fcj-025-precarious-playbour-modders-and-the-digital-games-industry/.

Kutner, L., and Olson, C., 2008. *Grand Theft Childhood: The Surprising Truth about Violent Video Games and What Parents Can Do*. New York, NY: Simon and Schuster.

Lasswell, H.D., 1948. The Structure and Function of Communication in Society. In Bryson, L., ed. *The Communication of Ideas*. New York, NY: Harper, 37-51.

Lastowka, G., 2006. Law and Games Studies. *Games and Culture* 1 (1), 25 -28.

Laughlin, A., 2013. HMV, Blockbuster Fall: The Beginning of the End for Games Retail? *Digital Spy*. 10 February 2013. Accessed 5 May 2013.

http://www.digitalspy.co.uk/gaming/news/a457379/hmv-blockbuster-fall-the-beginning-of-the-end-for-games-retail.html.

Lee, K.M., Park, N., and Jin, S., 2006. Narrative and Interactivity in Computer Games. In Vorderer, P. and Bryant, J., eds. *Playing Video Games: Motives, Responses, and Consequences*. Mahwah, NJ: Lawrence Erlbaum, 304-322.

Leonard, D.J., 2006. Not a Hater, Just Keepin' It Real. *Games and Culture* 1 (1), 83 -88.

Levy, M., 1982. The Lazarsfeld-Stanton Program Analyzer: An Historical Note. *Journal of Communication* 32 (4), 30-38.

Lewis, L., ed., 1992. *The Adoring Audience: Fan Culture and Popular Media*. London, UK: Routledge.

Lessig, L., 1999. *Code, and Other Laws of Cyberspace*. New York, NY: Basic Books.

Lessig, L., 2004. *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*. London, UK: Penguin Press.

Livingstone, I. and Hope, A., 2011. Next Gen: Transforming the UK into the World's Leading Talent Hub for the Video Games and Visual Effects Industries. *NESTA*. Accessed 6 March 2011. http://www.nesta.org.uk/home1/assets/features/next_gen.

Local Data Company, 2013. High Street Chain Store Closures Soar, Says Research. *BBC News*. 28 February 2013. Accessed 24 April 2013. http://www.bbc.co.uk/news/business-21611772.

Lomas, N., 2013. Even More Raspberry Pi Now Made in the U.K. as Largest Distributor of $35 Microcomputer Shifts All Production to Wales. *TechCrunch*. 15 March 2013. Accessed 24 April 2013. http://techcrunch.com/2013/03/15/more-uk-made-pi/.

Lotz, A., 2007. *The Television Will Be Revolutionized.* New York, NY: NYU Press.

Lowood, H., 2006. High-Performance Play: The Making of Machinima. *Journal of Media Practice* 7 (1), 25-42.

Lowrey, W., 2009. Institutional Roadblocks: Assessing Journalism's Response to Changing Audiences. In Papacharissi, Z., ed. *Journalism and Citizenship: New Agendas in Communication*. New York, NY: Routledge, 44-68.

Lugo, J., Sampson, T., and Lossada, M., 2002. Latin America's New Cultural Industries Still Play Old Games: From the Banana Republic to Donkey Kong. *Game Studies* 2 (2). http://www.gamestudies.org/0202/lugo/.

Malaby, T., 2006. Parlaying Value: Capital In and Beyond Virtual Worlds. *Games and Culture* 1 (2), 141-162.

Malliet, S., 2007. Adapting the Principles of Ludology to the Method of Video Game Content Analysis. *Game Studies* 7 (1). http://gamestudies.org/0701/articles/malliet.

Mann, D., 2008. *Hollywood Independents: The Postwar Talent Takeover*. Minneapolis, MN: University of Minnesota Press.

Manovich, L., 2001. *The Language of New Media*. Cambridge, MA: MIT Press.

Manovich, L., 2011. Trending: The Promises and Challenges of Big Social Data. *Manovich.net*. 23 April 2011. Accessed 23 May 2011. http://www.manovich.net/DOCS/Manovich_trending_paper.pdf.

Manzerolle, V., 2010. Mobilizing the Audience Commodity: Digital Labour in a Wireless World. *Ephemera* 10 (3/4): 455-469.

Marshall, P. D., 2009. New Media as Transformed Media Industry. In Holt, J. and Perren, A., eds., *Media Indsutries: History, Theory, and Method.* Malden, MA: Wiley-Blackwell, 81-89.

Martin, M., 2012. UKIE Digital Charts Figures are Unverified. *GamesIndustry International*. 22 May 2012. Accessed 22 May 2012. http://www.gamesindustry.biz/articles/2012-05-22-ukie-digital-charts-figures-are-unverified.

Maurino, M., 2012a. Response to @Riot A serious discussion about gender. Please read. *League of Legends Community Forums*. Riot Games. 6 October 2012. Accessed 24 April 2013. Message posted to http://na.leagueoflegends.com/board/showthread.php?p=29974270#29974270.

Maurino, M., 2012b. Response to @Riot A serious discussion about gender. Please read. *League of Legends Community Forums*. Riot Games. 7 October 2012. Accessed 24 April 2013. Message posted to http://na.leagueoflegends.com/board/showthread.php?p=30005109#30005109.

Maurino, M., 2012c. Response to @Riot A serious discussion about gender. Please read. *League of Legends Community Forums*. Riot Games. 7 October 2012. Accessed 24 April 2013. Message posted to http://na.leagueoflegends.com/board/showthread.php?p=30005435#30005435.

Maurino, M., 2012d. Response to @Riot A serious discussion about gender. Please read. *League of Legends Community Forums*. Riot Games. 7 October 2012. Accessed 24 April 2013. Message posted to http://na.leagueoflegends.com/board/showthread.php?p=30006001#30006001.

Mayer, V., Banks, M.J. and Caldwell, J.T., 2009. Introduction: Production studies: Roots and Routes. In Mayer, V., Banks, M.J., and Caldwell, J.T., eds., *Production Studies: Cultural Studies of the Media Industries*. New York: NY: Routledge, 1-12.

Mäyrä, F., 2006. A Moment in the Life of a Generation (Why Game Studies Now?). *Games and Culture* 1 (1), 103 -106.

McCain, T., 1985. The Invisible Influence: European Audience Research. *Intermedia* 13 (4/5), 74-78.

McChesney, R., 1997. *Corporate Media and the Threat to Democracy*. New York, NY: Seven Stories Press.

McElroy, G., 2012. How Gearbox's 'Truth Team' Outwitted Borderlands Feedback. *Polygon*. 14 March 2012. Accessed 15 March 2012. http://www.theverge.com/gaming/2012/3/14/2861998/gearbox-borderlands-testing.

McGonigal, J., 2011. *Reality is Broken: Why Games Make Us Better and How They Can Change the World*. London, UK: Jonathan Cape.

McGuigan, L., 2012. Consumers: The Commodity Product of Interactive Commercial Television, or, Is Dallas Smythe's Thesis More Germane Than Ever? *Journal of Communication Inquiry* 36 (4), 288-304.

McLuhan, M., 1947 (1957). American Advertising. *Horizon* 93 (4), 132-141. Reprinted in Rosenberg, B. and White, D., eds. *Mass Culture: The Popular Arts in America*. New York, NY: Free Press, 435-442.

McQuail, D., 1997. *Audience Analysis.* Thousand Oaks, CA: Sage.

McQuail, D., 1998. With the Benefits of Hindsight: Reflections on the Uses and Gratification Paradigm. In Dickinson, R., Harindranath, R., and Linne, O., eds. *Approaches to Audiences*. London, UK: Arnold, 151-165.

McWhertor, M., 2012. The League of Legends Team of Sciences Trying to Cure “Toxic Behavior” Online. *Polygon.* 13 October 2012. Accessed 18 October 2012.

http://www.polygon.com/2012/10/17/3515178/the-league-of-legends-team-of-scientists-trying-to-cure-toxic.

McWhertor, M., 2013a. Maxis Explains What Went Wrong with SimCity and What the Developer Is Doing to Fix It. *Polygon*. 9 March 2013. Accessed 10 March 2013. http://www.polygon.com/2013/3/9/4081464/simcity-interview-ea-maxis-lucy-bradshaw.

McWhertor, M., 2013b. SimCity Hacking Threads Deleted from Official Forums, EA Asks Users to 'Continue Dialogue' Elsewhere. *Polygon*. 14 March 2013. Accessed 14 March 2013. http://www.polygon.com/2013/3/14/4106630/simcity-hacking-threads-deleted-from-official-forums.

Medler, B., 2009. Generations of Game Analytics, Achievements and High Scores. *Eludamos: Journal for Computer Game Culture* 3 (2), 177-194. http://www.eludamos.org/index.php/eludamos/article/view/vol3no2-4/127.

Medler, B., 2011. Player Dossiers: Analyzing Gameplay Data as Reward. *Game Studies* 11 (1). http://gamestudies.org/1101/articles/medler.

Meehan, E., 1984. Ratings and the Institutional Approach: A Third Answer to the Commodity Question. *Critical Studies in Mass Communication* 1 (2), 216-225.

Meehan, E., 2002. Gendering the Commodity Audience: Critical Media Research, Feminism, and Political Economy. In Meehan, E. and Riordan, E., eds. *Sex and Money: Feminism and Political Economy in the Media*. Minneapolis, MN: University of Minneapolis Press, 209-222.

Miller, T., 2006. Gaming for Beginners. *Games and Culture* 1(1), 5 -12.

Monaghan, G. and Tunney, S., 2010. Introduction: Participation and Incorporation? In Tunney, S. and Monaghan, G., eds. *Web Journalism:// A New Form of Citizenship?* Eastbourne, UK: Sussex Academic Press, 1-26.

Montfort, N. and Bogost, I., 2009. *Racing the Beam: The Atari Video Computer System*. Cambridge, MA: MIT Press.

Morris, S., 2003. WADs, Bots and Mods: Multiplayer FPS Games as Co-creative Media. *Level Up: DiGRA Conference Proceedings*, Utrecht, Netherlands: University of Utrecht. Accessed 18 November 2010. http://www.digra.org/dl/db/05150.21522.pdf.

Mueller-Heumann, G., 1992. Market and Technology Shifts in the 1990s: Market Fragmentation and Mass Customization. *Journal of Marketing Management* 8 (4), 303-314.

Muggleton, D. and Weinzierl, R., 2003. *The Post-Subcultures Reader*. New York, NY: Berg.

Myers, D., 2006. Signs, Symbols, Games, and Play. *Games and Culture* 1 (1), 47 -51.

Napoli, P., 2011. *Audience Evolution: New Technologies and the Transformation of Media Audiences*. New York: Columbia University Press.

Neff, J., 2011. Wal-Mart Lifts Decade-Long Ban on Data Sharing. *Advertising Age*. 21 July 2011. Accessed 10 December 2012. http://adage.com/article/news/wal-mart-lifts-decade-long-ban-data-sharing/228845/.

Negus, K., 1995. Where the Mystical Meets the Market: Creativity and Commerce in the Production of Popular Music. *The Sociological Review* 43 (2), 316-341.

Nethaera, 2010. (Sticky Locked) UI add-on development policy. *World of Warcraft Forums*. Blizzard Entertainment. 16 November 2010. Accessed 24 April 2013. Message posted to http://us.battle.net/wow/en/forum/topic/1021053914.

Newman, M.Z., 2011. *Indie: An American Film Culture*. New York, NY: Columbia University Press.

Nielsen Company, 2012. Nielsen and Twitter Establish Social TV Rating. *Nielsen Press Room*. 17 December 2012. Accessed 19 December 2012. http://www.nielsen.com/us/en/press-room/2012/nielsen-and-twitter-establish-social-tv-rating.html.

Nintendo, 2010. Nintendo 3DS Service User Agreement. *Nintendo of America*. Accessed 12 September 2011. http://www.nintendo.com/consumer/systems/3ds/en_na/parents.jsp.

NPD Group, 2012a. The NPD Group Signs Point-of-Sale Cooperation Agreement with Wal-mart. Press Release. 3 February 2012. Accessed 3 March 2012. https://www.npd.com/wps/portal/npd/us/news/press-releases/pr_120203/.

O'Donnell, C., 2011. Games Are Not Convergence: The Lost Promise of Digital Production and Convergence. *Convergence* 17(3): 271-286.

O'Donnell, C., 2012a. The North American Game Industry. In Zackariasson, P. and Wilson, T., eds. *The Video Game Industry: Formation, Present State, and Future*. New York, NY: Routledge, 99-116.

O'Donnell, C., 2012b. This Is Not a Software Industry. In Zackariasson, P. and Wilson, T., eds. *The Video Game Industry: Formation, Present State, and Future*. New York, NY: Routledge, 17-33.

O'Donnell, C., 2013. Wither *Mario Factory?* The Role of Tools in Constructing (Co)Creative Possibilities on Video Game Consoles. *Games and Culture* 8(3): 161-180.

O'Regan, T., 2002. Arts Audiences: Becoming Audience-Minded. In Balnaves, M., O'Regan, T., and Sternberg, J., eds. *Mobilising the Audience*. Queensland, Australia: University of Queensland Press, 104-130.

Oakley, K., 2004. Not So Cool Britannia: The Role of the Creative Industries in Economic Development. *International Journal of Cultural Studies* 7 (1), 67-77.

Ofcom, 2012. *Children and Parents: Media Use and Attitudes Report*. 23 October 2012. Accessed 10 November 2012. http://stakeholders.ofcom.org.uk/binaries/research/media-literacy/oct2012/main.pdf.

Okolo C.M., 1992. The Effects of Computer-Based Attribution Retraining on the Attributions, Persistence, and Mathematics Computation of Students with Learning Disabilities. *Journal of Learning Disabilities* 25 (5), 327-334.

Ontario Media Development Corporation, 2013. Ontaro Interactive Digital Media Tax Credit. Ministry of Tourism, Culture and Sport. Accessed 24 April 2013. http://www.omdc.on.ca/interactive/Tax_Credits/OIDMTC.htm.

Orland, K., 2011a. Facebook Changes Method for Measuring Active App Users. *Gamasutra*. 17 October 2011. Accessed 24 October 2011. http://www.gamasutra.com/view/news/127681/Facebook_Changes_Method_For_Measuring_Active_App_Users.php.

Orland, K., 2011b. GameStop Removing OnLive Vouchers from PC Human Revolution Boxes. *Gamasutra*. 24 August 2011. Accessed 27 August 2011. http://www.gamasutra.com/view/news/36761/GameStop_Removing_OnLive_Vouchers_From_PC_Human_Revolution_Boxes.php.

Orland, K., 2012. Publishers Beware: Can Other Game Developers Copy Double Fine's Kickstarter Millions? *Ars Technica*. 20 February 2012. Accessed 22 February 2012.

http://arstechnica.com/gaming/2012/02/publishers-beware-can-other-game-developers-copy-double-fines-kickstarter-millions/.

Panko, R., 1988. *End User Computing: Management, Applications, and Technology*. New York, NY: Wiley.

Parikka, J. and Suominen, J., 2006. Victorian Snakes? Towards a Cultural History of Mobile Games and the Experience of Movement. *Game Studies* 6 (1). http://gamestudies.org/0601/articles/parikka_suominen

Parkin, S., 2010. Microsoft Shutting Down In-Game Ad Unit Massive, 'Redeploying' Tech. *Gamasutra*. 22 October 2010. Accessed 14 April 2011. http://www.gamasutra.com/view/news/31122/Microsoft_Shutting_Down_InGame_Ad_Unit__Massive_Redeploying_Tech.php.

Paul, C.A., 2011. Optimizing Play: How Theorycraft Changes Gameplay and Design. *Game Studies* 11 (2). http://gamestudies.org/1102/articles/paul.

Pearce, C., 2006. Productive Play. *Games and Culture* 1 (1), 17 -24.

Pearce, C., 2008. The Truth About Baby Boomer Gamers: A Study of Over-Forty Computer Game Players. *Games and Culture* 3 (2), 142-174.

Pearce, C. and Artemesia, 2009. *Communities of Play: Emergent Cultures in Multiplayer Games and Virtual Worlds*. Cambridge, MA: MIT Press.

Perren, A., 2012. *Indie, Inc: Miramax and the Transformation of Hollywood in the 1990s.* Austin, TX: University of Texas Press.

Petrie, D., 1991. *Creativity and Constraint in the British Film Industry*. New York, NY: St. Martin's Press.

Pfaffenberger, B., 1990. *Democratizing Information: Online Databases and the Rise of End-User Searching*. Boston, MA: G.K. Hall & Co.

Postigo, H., 2007. Of Mods and Modders: Chasing Down the Value of Fan-Based Digital Game Modifications. *Games and Culture* 2 (4), 300-313.

Postigo, H., 2008. Video Game Appropriation Through Modification: Attitudes Concerning Intellectual Property Among Modders and Fans. *Convergence* 14 (1), 59-74.

Prescott, J. and Bogg, J., 2011. Segregation in a Male-Dominated Industry: Women Working in the Computer Games Industry. *International Journal of Gender, Science and Technology* 3 (1), 206-227.

Provenzo, E., 1991. *Video Kids: Making Sense of Nintendo*. Cambridge, MA: Harvard University Press.

Province of British Columbia, 2013. Interactive Digital Media Tax Credit. Government of British Columbia. Accessed 24 April 2013. http://www2.gov.bc.ca/gov/topic.page?id=73F4621AC32B404D985AF4D6BC0C94B8.

Province of Nova Scotia, 2013. Digital Media Tax Credit. Nova Scotia Department of Finance. Accessed 24 April 2013. http://www.novascotia.ca/finance/en/home/taxation/businesstax/corporateincometax/digitalmediataxcredit.aspx.

Purchese, R., 2008. Reeves Explains Why Europe Has to Wait. *Eurogamer*. 8 May 2008. Accessed 23 April 2011. http://www.eurogamer.net/articles/reeves-explains-why-europe-has-to-wait.

Quandt, T., Grueninger, H., and Wimmer, J., 2009. The Gray Haired Gaming Generation: Findings From an Explorative Interview Study on Older Computer Gamers. *Games and Culture* 4 (1), 27-46.

Radway, J., 1991. *Reading the Romance: Women, Patriarchy, and Popular Literature.* Chapel Hill, NC: University of North Carolina Press.

Raphael, C., et al., 2010. Games for Civic Learning: A Conceptual Framework and Agenda for Research and Design. *Games and Culture* 5 (2), 199-235.

Rauhel, 2012. @Riot A serious discussion about gender. Please read. *League of Legends Community Forums*. Riot Games. 5 October 2012. Accessed 24 April 2013. Message posted to http://na.leagueoflegends.com/board/showthread.php?t=2646142.

Revenu Québec, 2012. Changes to the Refundable Tax Credit for Multimedia Titles. Gouvernement du Québec. Accessed 24 April 2013. http://www.revenuquebec.ca/en/centre-information/nf/2012/2012-05-24.aspx.

Riot Games, 2013a. The Summoner's Code. *League of Legends Website.* Riot Games. Accessed 24 April 2013. http://na.leagueoflegends.com/articles/The_Summoners_Code.

Riot Games, 2013b. The Tribunal FAQ. *League of Legends Website.* Riot Games. Accessed 24 April 2013. http://na.leagueoflegends.com/tribunal/en/faq/.

Rogers, E., 2012. Crash Lab: Life after Rareware and Free Radical. *NotEnoughShaders.com*. 1 October 2012. Accessed 21 July 2013. http://www.notenoughshaders.com/2012/10/01/crash-lab-life-after-rareware-and-free-radical/.

Rogers, S., 2010. *Level Up!: The Guide to Great Video Game Design.* Chichester, UK: John Wiley & Sons.

Rose, M., 2012a. Nobody's Perfect: Why Sony's PSN Breach Lawsuit Was Dismissed. *Gamasutra*. 23 October 2012. Accessed 23 October 2012. http://www.gamasutra.com/view/news/179956/Nobodys_perfect_Why_Sonys_PSN_breach_lawsuit_was_dismissed.php.

Rose, M., 2012b. UK Government Reveals Tax Breaks for Video Game Industry. *Gamasutra*. 21 March 2012. Accessed 22 March 2012. http://www.gamasutra.com/view/news/166855/UK_Government_reveals_tax_breaks_for_video_game_industry_.php.

Rose, M., 2012c. Who Needs Kickstarter? Prison Architect Devs Want Total Control. *Gamasutra*. 10 October 2012. Accessed 10 October 2012. http://www.gamasutra.com/view/news/179127/Who_Needs_Kickstarter_Prison_Architect_devs_want_total_control.php.

Rosser, J.C. Jr., et al., 2007. The Impact of Video Games on Training Surgeons in the 21st Century. *Archives of Surgery* 142 (2), 181-186.

Rossignol, J. 2012. Sir, You Are Being Hunted. *Big Robot Blog.* Blog Post. 12 March 2012. Accessed 7 July 2013. http://www.big-robot.com/2012/03/12/sir-you-are-being-hunted/.

Rouse, R. III, 2005. *Game Design: Theory and Practice*. Second edition. Plano: Worldware.

Rubens, W.S., 1984. High-Tech Audience Measurement for New-Tech Audiences. *Critical Studies in Mass Communication* 1 (2), 195-205.

Rubin, A.M., 2002. The Uses and Gratifications Perspective of Media Effects. In Bryant, J. and Zillmann, D., eds. *Media Effects: Advances in Theory and Research*. Second Edition. Mahwah, NJ: Erlbaum, 525-548.

Ruddock, A., 2001. *Understanding Audiences: Theory and Method*. London: Sage.

Ruggiero, T.E., 2000. Uses and Gratifications Theory in the 21st Century. *Mass*

Communication and Society 3 (1), 3–37.
Rust, R. and Oliver, R., 1994. The Death of Advertising. *Journal of Advertising* 23 (4), 71-77.
Ryan, J. and Peterson, R., 1982. The Product Image: The Fate of Creativity in Country Music Songwriting. In Ettema, J.S. and Whitney, D.C., eds. *Individuals in Mass Media Organizations: Creativity and Constraint.* Beverly Hills, CA: Sage, 11-32.
Ryan, M., 2001. Beyond Myth and Metaphor: The Case of Narrative in Digital Media. *Game Studies* 1 (1). http://www.gamestudies.org/0101/ryan/.
Schell, J., 2008. *The Art of Game Design: A Book of Lenses.* Burlington, MA: Morgan Kaufmann.
Schlesinger, P., 1978. *Putting "Reality" Together: BBC News*. London, UK: Constable.
Schott, G. and Horrell, K., 2000. Girl Gamers and their Relationship with the Gaming Culture. *Convergence* 6 (4), 36-53.
Schott, G., and Thomas, S., 2008. The Impact of Nintendo's "For Men" Advertising Campaign on a Potential Female Market. *Eludamos: Journal for Computer Game Culture* 2 (1), 41-52.
Schultz, W., 2000. Television Audiences. In Wieten, J., Murdock, G., and Dahlgren, P., eds. *Television Across Europe: A Comparative Introduction*. London, UK: Sage, 113-134.
Seiter, E., 1999. *Television and New Media Audiences*. Oxford: Clarendon Press.
Seybold, P., 2011. Sony's Response to the U.S. House of Representatives. *PlayStation Blog*. 4 May 2011. Accessed 5 May 2011. http://blog.us.playstation.com/2011/05/04/sonys-response-to-the-u-s-house-of-representatives/.
Shaw, A., 2009. Putting the Gay in Games: Cultural Production and GLBT Content in Video Games. *Games and Culture* 2009 4 (3), 228-253.
Shaw, A., 2010. What Is Video Game Culture? Cultural Studies and Game Studies. *Games and Culture* 5 (4), 403-424.
Shaw, A., 2012. Do You Identify as a Gamer? Gender, Race, Sexuality, and Gamer Identity. *New Media & Society* 14 (1), 28-44.
Sheff, D., 1993. *Game Over: How Nintendo Zapped an American Industry, Captured Your Dollars, and Enslaved Your Children*. New York, NY: Random House.
Sherry, J. L., Lucas, K., Greenberg, B., & Lachlan, K., 2006. Video Game Uses and Gratifications as Predictors of Use and Game Preference. In P. Vorderer & J. Bryant, eds. *Playing Computer Games: Motives, Responses, and Consequences.* Mahwah, NJ: Erlbaum, 213-224.
Shimpach, S., 2005. Working Watching: The Creative and Cultural Labor of the Media Audience. *Social Semiotics* 15 (3), 343-360.
Shuman, S., 2012. PlayStation Blogcast 50: Sportsfriends Forever. *PlayStation Blog.* 9 November 2012. Accessed 9 November 2012. http://blog.us.playstation.com/2012/11/09/playstation-blogcast-50-sportsfriends-forever/.
Sliwinski, A., 2012. Mass Effect 3 Sales in the US Hit 1.3 Million During Launch Month. *Joystiq*. 13 April 2012. Accessed 15 April 2012. http://www.joystiq.com/2012/04/13/mass-effect-3-sales-in-us-hit-1-3-million-during-launch-month/.

Smith, J.H., 2006. *Plans and Purposes: How Videogame Goals Shape Player Behavior.* PhD Dissertation. Copenhagen: IT University of Copenhagen.

Smythe, D.W., 1981 (2006). On the Audience Commodity and its Work. In Smythe, D.W. *Dependency Road: Communications, Capitalism, Consciousness, and Canada.* Norwood, NJ: Ablex, 22-51. Reprinted in Durham, M.G. and Kellner, D.M., eds. *Media and Cultural Studies: Keyworks.* Revised Edition. Malden, MA: Blackwell, 230-256.

Sony Online Entertainment, 2011. Sony Online Entertainment Announces Theft of Data from Its Systems. *Press Release.* 3 May 2011. Accessed 7 July 2013. https://www.soe.com/securityupdate/pressrelease.vm.

Sotamaa, O., 2007. Perceptions of Player in Game Design Literature. In S*ituated Play: Proceedings of DiGRA 2007 Conference*. Tokyo: University of Tokyo, 456-465. http://www.digra.org/dl/db/07311.59383.pdf.

Spaff, 2009, March 19. Media Molecule Podcast 2. *Media Molecule Podcast.* Audio Podcast. Accessed 9 July 2013. http://www.mediamolecule.com/blog/article/media_molecule_podcast_no2/.

Staff and Carless, S., 2009. Report: WiiWare's Minimum Sales Threshold Affects Developers. *Gamasutra*. 14 April 2009. Accessed 7 July 2013. http://www.gamasutra.com/php-bin/news_index.php?story=22974.

Staiger, J., 2005. *Media Reception Studies*. New York, NY: NYU Press.

Stavitsky, A., 1995. "Guys in Suits with Charts": Audience Research in U.S. Public Radio. *Journal of Broadcasting and Electronic Media* 39 (2), 177-189.

Stavitsky, A., 1998. Counting the House in Public Television: A History of Ratings Use, 1953-1980. *Journal of Broadcasting and Electronic Media* 42 (4), 520-534.

Steinkuehler, C.A., 2006. Why Game (Culture) Studies Now? *Games and Culture* 1 (1), 97 -102.

Stoddart, J., 2011. ARCHIVED – Privacy and the Information and Communications Revolution. *Remarks at the Canada 3.0 Conference, Organized by Canadian Digital Media Network*. Speech. 4 May 2011. Accessed 7 July 2013. http://www.priv.gc.ca/media/sp-d/2011/sp-d_20110504_e.asp.

Stuart, K., 2010. Budget 2010: Video Games Tax Relief Disappears. *The Guardian*. 22 June 2010. Accessed 7 July 2013. http://www.guardian.co.uk/uk/2010/jun/22/budget-2010-video-games-tax-relief-disappears.

Stuart, K., 2011. The Metrics Are the Message: How Analytics Is Shaping Social Games. *The Guardian*. 14 July 2011. Accessed 28 July 2011. http://www.guardian.co.uk/technology/gamesblog/2011/jul/14/social-gaming-metrics.

Stuart, K., 2012. TIGA on Brain Drain and Investment. *The Guardian*. 23 January 2012. Accessed 14 April 2013. http://www.guardian.co.uk/technology/gamesblog/2012/jan/23/tiga-on-brain-drain-and-investment.

Subrahmanyam, K., and Greenfield, P., 1994. Effect of Video Game Practice on Spatial Skills in Girls and Boys. *Journal of Applied Developmental Psychology* 15 (1), 13-32.

Subrahmanyam, K., Greenfield, P., Kraut, R. and Gross, E., 2001. The Impact of Computer Use on Children's and Adolescents' Development. *Journal of Applied Developmental Psychology* 22 (1), 7-30.

Sweney, M., 2013. Facebook Admits It Is Powerless to Stop Young Users Setting Up Profiles. *The Guardian*. 23 January 2013. Accessed 28 January 2013. http://www.guardian.co.uk/technology/2013/jan/23/facebook-admits-powerless-young-users.

Takahashi, D., 2002. *Opening the Xbox*. Roseville, CA: Prima Lifestyles.

Takahashi, D., 2011a. Call of Duty Consumes the Time of Four or Five Activision Studios (Video). *Venturebeat*. 6 September 2011. Accessed 8 September 2011. http://venturebeat.com/2011/09/06/call-of-duty-consumes-the-time-of-four-or-five-activision-studios-video/.

Takahashi, D., 2011b. Double Fusion Buys Assets of In-Game Ad Firm NeoEdge Networks. *Venturebeat*. 14 December 2011. Accessed 8 January 2012. http://venturebeat.com/2011/12/14/double-fusion-buys-assets-of-in-game-ad-firm-neoedge-networks/.

Tan, M., 2012. Understanding User Research: It's Not QA or Marketing!*Gamasutra*. 6 April 2012. Accessed 14 April 2012. http://gamasutra.com/view/feature/168114/understanding_user_research_its_.php.

Taylor, L., 2007. Platform Dependent: Console and Computer Cultures. In Williams, J.P. and Smith, J.H. eds., *The Players' Realm: Studies on the Culture of Video Games and Gaming*. Jefferson, NC: McFarland and Company, 223-238.

Taylor, T.L., 2003. Power Gamers Just Want to Have Fun?: Instrumental Play in a MMOG. *Level Up Conference Proceedings*. Utrecht: University of Utrecht, 300-311. http://www.digra.org/dl/db/05163.32071.

Taylor, T.L., 2006. *Play Between Worlds: Exploring Online Game Culture*. Cambridge, MA: MIT Press.

Taylor, T.L., 2012. *Raising the Stakes: E-sports and the Professionalization of Computer Gaming*. Cambridge, MA: MIT Press.

Terranova, T., 2004. *Network Culture: Politics for the Information Age*. London: Pluto Press.

Texas Economic Development Division, 2013. Low Taxes. Texas Wide Open for Business. Accessed 29 April 2013. http://www.texaswideopenforbusiness.com/business-climate/low-taxes.php.

Texas Film Commission, 2013. Moving Image Industry Incentive Program – Video Game Projects. Office of Governor Rick Perry. Accessed 29 April 2013. http://governor.state.tx.us/film/incentives/miiip_game.

Thompson, C., 2007. Halo 3: How Microsoft Labs Invented a New Science of Play. *Wired*. 21 August 2007. Accessed 9 July 2013. http://www.wired.com/gaming/virtualworlds/magazine/15-09/ff_halo?currentPage=all.

Thornham, H., 2009. Claiming a Stake in the Videogame: What Grown-Ups Say to Rationalize and Normalize Gaming. *Convergence* 15 (2), 141-159.

Thornton, S., 1995. *Club Cultures: Music, Media, and Subcultural Capital*. Cambridge, UK: Polity Press.

Thornton, S., 1997. The Social Logic of Subcultural Capital. In Gelder, K. and Thornton, S., eds. *The Subcultures Reader*. London: Routledge, 200-209.

TIGA, 2010a. Cancellation of Games Tax Relief Could Jeopardise Inward Investment. TIGA press release. 30 June 2010. Accessed 25 April 2013.

http://www.tiga.org/news/press-releases/cancellation-of-games-tax-relief-could-jeopardise-inward-investment.

TIGA, 2010b. TIGA Tells UK Policy Makers to Wake Up to Canadian Threat. TIGA press release. 20 July 2010. Accessed 25 April 2013. http://www.tiga.org/news/press-releases/tiga-tells-uk-policy-makers-to-wake-up-to-canadian-threat.

TIGA, 2010c. UK Game Developers Can Support Export Led Recovery. TIGA press releases. 14 June 2010. Accessed 25 April 2013. http://www.tiga.org/news/press-releases/uk-game-developers-can-support-export-led-recovery.

TIGA, 2011. UK Video Games Industry Can Support Export Led Economic Recovery. TIGA press releases. 7 June 2011. Accessed 25 April 2013. http://www.tiga.org/news/press-releases/uk-video-games-industry-can-support-export-led-economic-recovery.

TIGA, 2013a. Britain's Game Developers Focused on Bytes Not Bricks. *Gamasutra*. 24 April 2013. Accessed 25 April 2013. http://www.gamasutra.com/view/pressreleases/191144/Britainrsquos_game_developers_focused_on_bytes_notbricks.php.

TIGA, 2013b. The UK Games Industry: Young, Independent and Mobile. TIGA press release. 2 April 2013. Accessed 14 April 2013. http://www.tiga.org/news/press-releases/the-uk-games-industry-young-independent-and-mobile.

Tinic, S., 2005. *On Location: Canada's Television Industry in a Global Market*. Toronto: University of Toronto Press.

Toffler, A., 1981. *The Third Wave*. New York, NY: Bantam Books.

Tomlinson, J., 1999. *Globalisation and Culture.* Cambridge, UK: Policy Press and Blackwell.

UKIE, 2012a. GfK Chart-Track and UKIE extend collaboration. *UKIE*. 23 January 2012. Accessed 23 March 2012. http://ukie.org.uk/content/gfk-chart-track-and-ukie-extend-collaboration.

UKIE, 2012b. UKIE Unveils Work In Progress Version of First Ever UK Digital Games Chart. *UKIE.* 6 March 2012. Accessed 23 March 2012. http://ukie.org.uk/content/ukie-unveils-work-progress-version-first-ever-uk-digital-games-chart.

UKIE, 2012c. Membership. *UKIE*. Accessed 7 August 2013. http://ukie.info/membership.

UKIE, 2013a. First Official UK Games Industry Digital Sales Chart Debuts. UKIE Press Release. Accessed 7 August 2013. http://ukie.info/content/first-official-uk-games-industry-digital-sales-chart-debuts.

UKIE, 2013b. Ukie Responds to Announcement of European Commission Tax Breaks Investigation. UKIE Press Release. Accessed 7 August 2013. http://ukie.info/content/ukie-responds-announcement-european-commission-tax-breaks-investigation-0.

Upton, L., 2013. Exclusive Feature: Raspberry Pi: The Fastest-Growing Computer Company in the World Settles in Wales. ITWales. Accessed 1 July 2013. http://www.itwales.com/996940_EXCLUSIVE-FEATURE-Raspberry-Pi.htm.

Valve Corporation, 2012a. *Handbook for New Employees*. Bellevue, WA: Valve Press. Accessed 12 June 2013. http://media.steampowered.com/apps/valve/Valve_NewEmployeeHandbook.pdf.

Valve Corporation, 2012b. Steam: Game and Player Statistics. *Valve Corporation.* Accessed 12 June 2013. http://store.steampowered.com/stats/.

Valve Corporation, 2013a. Rules and Guidelines for Steam Guides. *Steam Support.* Valve Corporation. Accessed 12 June 2013. https://support.steampowered.com/kb_article.php?ref=1102-UIAX-7728.

Valve Corporation, 2013b. Steam Guides: Player-Created Manuals & References. *Steam Community.* Valve Corporation. Accessed 12 June 2013. http://steamcommunity.com/guides.

van Dijk, T.A., 1993. Principles of Critical Discourse Analysis. *Discourse and Society* 4 (2), 249-283.

VanHoose, D., 2011. *E-commerce Economics.* Second edition. New York, NY: Routledge.

VGChartz Ltd., 2012. VGChartz Pro. *VGCharts Ltd.* http://www.vgchartz.com/pro/.

Walker, J., 2011. No Oceans: Call for Worldwide Release Dates. *Rock, Paper Shotgun*. 22 March 2011. Accessed 22 March 2011. http://www.rockpapershotgun.com/2011/03/22/no-oceans-call-for-worldwide-release-dates/.

Walker, J., 2012. Interview: Ubisoft on DRM, Piracy and PC Games. *Rock, Paper Shotgun*. 5 September 2012. Accessed 8 September 2012. http://www.rockpapershotgun.com/2012/09/05/ubisoft-drm-piracy-interview/.

Walker, J., 2013. SimCity is Inherently Broken, Let's Not Let This Go. *Rock, Paper Shotgun*. 11 March 2013. Accessed 11 March 2013. http://www.rockpapershotgun.com/2013/03/11/simcity-is-inherently-broken-lets-not-let-this-go/.

Wardrip-Fruin, N. and Harrigan, P., eds., 2004. *First Person: New Media as Story, Performance, and Game*. Cambridge, MA: MIT Press.

Wark, McKenzie, 2007. *Gamer Theory*. Cambridge, MA: Harvard University Press.

Webster, A., 2012. 'Punch Quest' is the iPhone's Hottest Game, But It's a Financial Flop. *The Verge*. 31 October 2012. Accessed 4 November 2012. http://www.theverge.com/2012/10/31/3577838/punch-quest-iphone-game-struggle.

Webster, J., 1991. Advanced Manufacturing Technologies: Work Organisation and Social Relations Crystallised. In Law, J. ed. *A Sociology of Monsters: Essays on Power, Technology and Domination.* London, UK: Routledge, 192-222.

Webster, J. and Phalen, P., 1994. Victim, Consumer, or Commodity? Audience Models in Communication Policy. In Ettema, J.S. and Whitney, D.C., eds. *Audiencemaking: How the Media Create the Audience*. Thousand Oaks, CA: Sage, 19-37.

Wenz, K., 2013. Theorycrafting: Knowledge Production and Surveillance. *Information, Communication & Society* 16 (2), 178-193.

White, R. A., 1994. Audience Interpretation of Media: Emerging Perspectives. *Communication Research Trends*, 14 (3), 3–36.

Whitworth, D., 2011. Gaming Industry Loses “Billions” to Chipped Consoles. *BBC Newsbeat*. 21 January 2011. Accessed 14 May 2012. http://www.bbc.co.uk/newsbeat/12248010.

Williams, D., 2006. Why Game Studies Now? Gamers Don't Bowl Alone. *Games and Culture* 1 (1), 13 -16.

Williams, M.E., 2012. Apple Cans Game Modeled on Foxconn Tech Workers Suicides. *Salon.com.* 15 October 2012. Accessed 1 November 2012. http://www.salon.com/2012/10/15/apple_cans_game_modeled_on_foxconn_tech_workers_suicides/.

Wimmer, R. D., and Dominick, J. R., 1994. *Mass Media Research: An Introduction.* Belmont, CA: Wadsworth.

Wingfield, N., 2011. Virtual Products, Real Profits. *Wall Street Journal*. 9 September 2011. Accessed 14 May 2012. http://online.wsj.com/article/SB10001424053111904823804576502442835413446.html.

Winseck, D., 2011. The Political Economies of Media and the Transformation of the Global Media Industries. In Winseck, D. and Jin, D. Y., eds. *The Political Economies of Media: The Transformation of the Global Media Industries*. London, UK and New York, NY: Bloomsbury, 3-48.

Wodak, R. and Meyer, M., 2009. Critical Discourse Analysis: History, Agenda, Theory and Methodology. In Wodak, R. and Meyer, M., eds. *Methods for Critical Discourse Analysis*. Second Edition. London: Sage, 1-33.

Wright, C., 1961. Television and Radio Program Ratings and Measurements: A Selected and Annotated Bibliography. *Journal of Broadcasting* 5 (2), 165-186.

Wright, C., 2011. Analytics 101 – A Crash Course on Why You Should Care. Talk at IGDA Scotland Meeting. 26 October 2011. Accessed 18 November 2011. http://www.slideshare.net/slideshow/embed_code/9977278#.

Yang, M. et al., 2006. The Effectiveness of "In-game" Advertising: Comparing College Students' Explicit and Implicit Memory for Brand Names. *Journal of Advertising* 35 (4), 143-152.

Yee, N., 2006a. The Labor of Fun. *Games and Culture* 1 (1), 68 -71.

Yee, N., 2006b. Yi-Shan-Guan. *The Daedalus Project*. Accessed 14 July 2013. http://www.nickyee.com/daedalus/archives/001493.php.

Yin-Poole, W., 2012a. Sony Closes Wipeout Developer Sony Liverpool. *Eurogamer*. 22 August 2012. Accessed 22 August 2012. http://www.eurogamer.net/articles/2012-08-22-sony-closes-wipeout-developer-sony-liverpool-report.

Yin-Poole, W., 2012b. Wing Commander Creator Returns to Melt Your PC with New Space Sim Star Citizen. *Eurogamer*. 10 October 2012. Accessed 12 October 2012. http://www.eurogamer.net/articles/2012-10-10-wing-commander-creator-returns-to-melt-your-pc-with-new-space-sim-star-citizen.

Yu, D., 2010. Interpreting Player Feedback. *Make Games*. 11 June 2010. Accessed 2 June 2013. http://makegames.tumblr.com/post/687758330/interpreting-player-feedback.

Zackariasson, P. and Wilson, T., 2012. *The Video Game Industry: Formation, Present State, and Future*. New York, NY: Routledge.