GAMES AND PLAY

Edited by Olli Sotamaa and Jan Švelch

Game Production Studies

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Introduction: Why Game Production Matters?

Olli Sotamaa & Jan Švelch

Abstract
In the introduction, the editors of this collection argue for the importance of game production studies at a point when the public awareness about the production context of video games has, arguably, never been higher. With so many accounts of video game development permeating player and developer communities, the task of game production studies is to uncover the economic, cultural, and political structures that influence the final form of games by applying rigorous research methods. While the field of game studies has developed quickly in the past two decades, the study of the video game industry and different modes of video game production have been mostly dismissed by game studies scholars and requires more attention.

Keywords: production studies, game industry, game production, platform studies, indie, sociology of work

In August 2018, *Kotaku*'s reporter Cecilia D'Anastasio (2018) broke a story about the culture of sexism in the video game studio Riot Games, best known for its multiplayer hit *League of Legends* (Riot Games 2009). While structural inequalities based on gender have been observed before in both academic (see Consalvo 2008; Harvey and Shepherd 2017; Huntemann 2013; Shaw and Homan 2013) and journalistic writing (e.g. Kelleher 2015; Parker 2017), this exposé focused on one particular company and, thanks to extensive investigative work, shared the experiences of Riot's disadvantaged, discriminated, and harassed female employees. It contributed to the wave of critical reporting about production practices in the video game industry (see also Schreier 2017) and deservedly won the Writers Guild of America Digital News award. D'Anastasio showed concrete evidence of problematic hiring

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and promotion practices and the negative impacts of 'bro culture' on the well-being of employees who did not fit the bill of a white male 'core gamer'. Consequently, Riot temporarily suspended its COO, started an internal investigation, and initiated an arguably positive change to its working culture (D'Anastasio 2019). In the same year, the Game Workers Unite movement was founded (Weststar and Legault 2019) and several other stories about precarious working conditions followed through 2019 (Schreier 2018; 2019). Video game production issues have entered public discussion and appear to be something that players and fans want to read about. Whereas previous video game controversies revolved primarily around in-game representation, whether it was violence in the late 1970s (Kocurek 2012) or objectification and sexism in the mid-2010s and, by extension, toxic player communities (Massanari 2017), the new breaking stories uncover the behind-the-scenes realities of how games are made and at what cost.

This collection arrives at a point when public awareness about the production context of video games has arguably never been higher. But game production studies does not matter only because it makes for a good story. A critical reflection of video game production can uncover the economic, cultural, and political structures that influence the final form of games, whether it is a commercial blockbuster developed by publicly traded companies with the help of countless outsourcing partners, an unexpected indie sensation created by a small team in a co-working space, or an activist game made by an individual living on the margins of the video game industry. The power and appeal of these narratives can be seen in the documentaries that celebrate and glorify the successful video game projects (Akiaten 2019; Chartier 2019; Pajot and Swirsky 2012) and even in the fictionalized TV series *Mythic Quest: Raven's Banquet*. Unfortunately, some of these stories can lead to the normalization of unsustainable and unhealthy working practices as they make it seem that crunch, and overwork in general, are needed if one aims for greatness in the form of a critically acclaimed bestselling game. With so many accounts of video game development permeating player and developer communities, the task of game production studies is to make sense of it all and, by applying rigorous research methods, address pressing concerns about video game production without succumbing to myths and official narratives. In that sense, this collection provides an ideal starting point for anyone interested in in-depth analyses of video game production by directly engaging in current discussions about precariousness of video game development based on original empirical research. However, it also ventures beyond these core trending topics and explores overlooked areas, such as local video game development cultures in post-socialist Eastern

European countries, China, or France, and also themes such as monetization or publishing, which have been studied only rarely from the perspective of production, but, as our authors show, are highly relevant and formative with regard to how video game companies operate as commercial enterprises.

The State of Game Production

The global video game industry has witnessed significant changes over the past decade or so. Similar to other media industries, game developers and publishers have moved from producing independent titles and material goods to providing constantly updated digital services (Sotamaa and Karppi 2010; Švelch 2019). These shifts are visible in popular new business models like free-to-play and the new roles, responsibilities, and occupations associated with game production, such as data analysts (Kerr 2017; Whitson 2019). Digital distribution platforms, accessible development tools, and new audiences also spawn 'informal game development practices' (Keogh 2019), which turn game production into a process that is both inherently global and intensely localized.

This volume questions the idea of the video game industry as one entity, a monolith. The chapters provide numerous situated readings of game making practices, environments, and cultures, which highlight the sometimes contradictory and competing approaches that define the current modes of video game production. Based on their study of the international music industry, John Williamson and Martin Cloonan (2007, 305) have argued 'that the notion of a single music industry is an inappropriate model for understanding and analysing the economics and politics surrounding music.' In a similar vein, any homogenous perception of the video game industry must be contested. Modes of video game production vary locally and regionally. They are platform-specific, apply several different funding and business models, and involve a variety of different actors. Given this multifaceted nature of video game production, its academic study necessarily includes a diverse set of theoretical approaches and empirical phenomena.

While the field of game studies has developed quickly in the past two decades, it still feels as if the study of the video game industry and different modes of video game production have been mostly dismissed by game studies scholars. The definitional discussions have often focused on the interplay between games and their players, relegating the study of game making to a marginal role. Games as designed objects have attracted attention from game design research (Kultima 2018; Lankoski and Holopainen

2017) but this approach has focused primarily on design processes and methods and less on the cultural, political, or economic contexts of game development.

Important early exceptions that have paved the way for the critical study of video game production include *Digital Play: The Interaction of Technology, Culture, and Marketing* (2003) by Stephen Kline, Nick Dyer-Witheford, and Greig de Peuter and *The Business and Culture of Digital Games* (2006) by Aphra Kerr. In the past decade, a few book-length academic volumes have touched upon the critical issues of the video game industry (Conway and deWinter 2015; Fung 2016; Kerr 2017; O'Donnell 2014; Ruggill et al. 2017; Zackariasson and Wilson 2012), but none of them have put the focus solely on video game production. At the same time, film studies and media studies have discussed the importance of 'production studies' (M. J. Banks, Conor, and Mayer 2016; Caldwell 2008; Mayer, Banks, and Caldwell 2009), but these volumes have only rarely addressed video games.

While a scholar of game industry and production can draw inspiration from various different fields, there remains a dearth of conferences, gatherings, or journals dedicated to the study of game production. With this volume, we want to address this shortage and to understand the idiosyncrasies associated with different modes of game making. At the same time, our primary aim has not been to demarcate a new field. Instead, we have invited an inspiring group of authors to explore what game production studies could mean. We hope this discussion can continue in the years ahead and help create more forums for the study of video game production. Given the vantage point at the intersection of video games, cultural industries, global production networks, and creative labour, we believe that the potential audience for game production studies is broad.

The Origins of the Edited Collection

This volume had several starting points. We had both touched upon some aspects of game production in our previous projects (Jørgensen, Sandqvist, and Sotamaa 2017; Sotamaa, Jørgensen, and Sandqvist 2020; Švelch 2016; 2017), but sometimes had trouble finding relevant academic literature. While some of the aforementioned pioneering works (e.g. Kerr 2006; Kline, Dyer-Witheford, and De Peuter 2003) provided convincing examples of how to write critically about the video game industry in general and game production in particular, posing more specific questions related to local game development cultures, specific production platforms, labour issues,

or policies often required borrowing conceptual and methodological tools from other fields.

In 2016, we (Olli Sotamaa, Kristine Jørgensen, and Ulf Sandqvist) acquired funding from The Joint Committee for Nordic Research Councils in the Humanities and Social Sciences (NOS-HS) for a project called Game Production Studies Initiative (GAMEWORK). A more concrete idea of an edited collection started to materialize in Autumn 2018. Within the Centre of Excellence in Game Culture Studies – funded by Academy of Finland and coordinated by Tampere University – we initiated a Game Production & Political Economy Reading Circle. Our readings provided important insights into the themes we wanted to cover in the volume. When we began to invite potential authors for the edited collection, we already had an idea about the particular scholars whose work could offer useful conceptual tools and empirical contributions to the study of video game production. Luckily, most of the scholars we contacted saw the value of the project and agreed to become contributors or recommended other potential authors. Our deliberate goal was to include scholars in different phases of their academic career, including senior scholars, postdocs, and PhD candidates.

The Scope and Context of this Volume

To us, game production studies is a specific perspective that emphasizes the cultural, economic, political, and social circumstances in which games are created and the production cultures associated with video game development. However, our goal is not to stake out our own field of interest in opposition to other traditions and paradigms, but rather to highlight the valuable connections between what is sometimes treated or may appear as isolated lines of scholarly inquiry. For example, the interest in co-creation of games (see J. Banks 2013; Grimes and Feenberg 2009; Kücklich 2005; Sotamaa 2007) has, in a way, sidestepped and, in some cases, preceded systematic study of game production. While this strand of research looks at very particular situations in which players themselves become 'creators' – for instance, by modding or inhabiting online worlds – and, in that sense, relates to the general debates about participatory cultures (Jenkins 2006) in the mid-2000s, the hobbyist communities that are at the centre of these practices are also key to understanding professional video game production, as many of the chapters of this edited collection explicitly show.

Similarly, the academic works investigating indie games unavoidably engage with the production context as one of the potential markers of the

proclaimed independence (Garda and Grabarczyk 2016). In that sense, the 2013 special issue of *Loading: The Journal of the Canadian Game Studies Association* and many individual articles published over the years are relevant for game production studies and vice versa. If one of the defining characteristics of indie game development is the rejection of mainstream, commercial video game production, then it is also important to study the point of reference, in order to be able to analyse whether indie lives up to its promise. While indie is not the primary focus of our collection, it plays a role in chapters that highlight the production realities of independent game developers.

Platform studies (Montfort and Bogost 2009), both the titular book series and the thematic area, is also closely related to video game production. Understood broadly as 'standards of specification', platforms clearly influence video game production as they impose constraints on the creativity of developers. While platform studies scholars shine the spotlight on the technical aspects of platforms, for example by analysing the inner workings of video game hardware, production studies might aim to show how producers interact with these tools and how they operate within the boundaries of the available hardware infrastructure. Both approaches are valuable and mutually beneficial. In this collection, Chris J. Young combines these two perspectives and looks at the local strategies of Unity Technologies, the company behind the eponymous game production platform, to show how it establishes its foothold among everyday game makers. Mia Consalvo and Andrew Phelps discuss the suitability of Twitch, a streaming platform with its own algorithmic but also media logics, for learning game development, although their particular usage of the term resembles the broader definition proposed by Tarleton Gillespie (2010).

Many of the chapters draw from the sociology of work and, in particular, from research that has been done about creative, innovative, and artistic work (e.g. McRobbie 2016; Menger 1999; Neff 2012). Staying true to the interdisciplinary nature of production studies, our contributors often bring a comparative mindset, highlighting both the potential similarities and differences between various production cultures. Aleena Chia's chapter engages specifically with theory about the future of work and what role video game production can play in it, but many of our other authors, including Brendan Keogh, Hovig Ter Minassian, Anna M. Ozimek, Olli Sotamaa, and Vinciane Zabban, also ground their research in the sociology of work.

The last connection that we want to highlight is historical research. Video game historiography has been criticized for being too focused on the official narratives and facts (Huhtamo 2005; Nooney 2013). While this

tracked the evolution of video game industries, production cultures often went unnoticed. This collection looks primarily at current issues, hence most chapters are based on empirical material collected in the 2010s, but it also features chapters that contribute to the larger body of video game history. For example, Akinori Nakamura and Hanna Wirman present a historical overview of the development of the video game industry in Greater China, while Jaroslav Švelch explores the peripheral position of Czechoslovak video game production in the 1980s and early 1990s.

Methods and Methodologies

Miranda Banks, Bridget Connor, and Vicki Mayer (2016, x) suggest that production studies emphasizes 'specific sites and fabrics of media production as distinct interpretative communities, each with its own organizational structures, professional practices, and power dynamics.' Game production studies must also consider these tensions and conflicts between individual developers' agency and the social and economic conditions within which this agency is embedded. While this volume is interested in the everyday meaning-making practices of individuals who develop games, we also want to understand the economic, social, and cultural circumstances in which these activities take place.

Game production studies does not suggest a singular new methodology or field of inquiry. This volume draws inspiration both from top-down analysis favoured, for example, by political economists and the bottom-up ethnographic approaches that describe the practices, experiences, and opinions of different people involved in video game production. While many of the chapters are based on interviews as the main method of empirical research – although Chris J. Young, for example, has a more longitudinal approach than others – other methods are also represented, including: document analysis in David B. Nieborg's case study of Activision Blizzard; symposium ethnography in Pierson Browne and Briand R. Schram's exploration of the labour of directors of co-working spaces; analysis of journalistic coverage as part of regulatory space by Matthew E. Perks; content analysis of job listings and frequency analysis of in-game credits in Lies van Roessel and Jan Švelch's chapter; and qualitative analysis of developer streams on Twitch by Mia Consalvo and Andrew Phelps. It is not always clear how one should conduct a study of game production culture, and together these chapters can provide an overview of different available methodological approaches.

One of the underlying themes of the volume is to observe how global game industry trends interact with local and regional production cultures (see also Fung 2016; Penix-Tadsen 2019; Wolf 2015). Games are never created in a vacuum. Instead, they are shaped by networks of human and non-human actors that are dependent on historical and cultural contexts. The chapters in this collection provide insights into a geographically diverse set of game making sites, including Australia, Canada, China, Czechoslovakia, Finland, France, Germany, Poland, and the US. The particularities of local game development environments highlight how methodologies and scholarly approaches need to be adjusted when applied in different circumstances. It is thus also possible to escape naïve empiricism. Instead of promising to reveal the 'authentic' developer experiences, the authors are aware that the individual opinions and attitudes need to be interpreted in connection to situated contexts and larger discussions around the video game industry.

Sections

While acknowledging the breadth of issues related to game production studies, one edited collection can only cover so much. This means that we had to abandon certain themes; not because they did not belong but for practical reasons and to achieve our aim of a coherent and focused exploration of this particular research area. We realized early on, for example, that although analogue game production (see Trammell 2019) is relevant to game production studies as a whole and its analysis can unveil shared connections within production networks between digital and non-digital games (Tyni 2020), we would not be able to do this topic justice given the space constraints.

Throughout its four sections, this edited collection addresses not only the central topics of current scholarly discussions about video game production, but also highlights less exposed areas that, in our opinion, deserve more attention. The former is represented by the two first sections of this collection: Labour and Development, respectively. Chapters from these sections deal with the prominent issues of highly contingent, precarious, and often self-exploitative work in video game industries, but also look at how development itself is influenced by game creation engines or streaming platforms. In the next section, our contributors look at Publishing & Monetization as aspects that are generally considered important, after all they deal with money, but which are rarely studied from the perspective of production studies. The chapters in the last section, Regional Perspectives,

look at video game production in specific markets and regions and show how these zones have historically evolved in unique ways and how they now fit into global video game production networks.

Labour

The Section Labour focuses on the issues related to work practices and labour conditions within the established structures of the video game industry, but also outside of it, for example, in the hobbyist scenes or regarding the roles of cultural intermediaries, such as managers of co-working spaces. In Chapter 1, Brendan Keogh discusses how hobbyist game creators negotiate their own work practices between self-exploitation and self-emancipation. Based on interviews conducted in Australia, Canada, Germany, and the Netherlands, Keogh shows the complex and paradoxical situation of many of his respondents, who reject the overwork and misogyny of the traditional video game industry but simultaneously suffer from similarly precarious working conditions while developing their own independent games. He concludes that while these game creators cannot fully escape the realities of the neoliberal capitalism of contemporary creative industries, they are 'making do' within these constraints, also by avoiding the perceived drudgery of the industrialized video game production. In Chapter 2, Aleena Chia interrogates the importance of work and leisure in the post-work era, suggesting that everyday practices of game making as a form of serious leisure can contribute to a narrative of self in the present moment characterized by short-term and precarious work. Chia synthesizes theory on post-work, creative industries, and game production, and draws from her ethnographic research with gaming hobbyists to propose a compelling vision in which leisure practices can provide continuity and a sense of accomplishment for identity building. In Chapter 3, Hovig Ter Minassian and Vinciane Zabban explore the career trajectories of workers in the French video game industry, finding parallels with developments in the creative and artistic fields, which have also experienced an oversupply of passionate young professionals. Although France has a relatively diverse local scene, which includes global companies, smaller studios, and indie developers, it remains a rather narrow labour market with a high turnover. Based on 31 biographical interviews, Ter Minassian and Zabban show how their respondents deal with these precarious working conditions, both on an individual and a collective level, highlighting four particular trajectories: switching to a different company; going to work abroad; going indie; or leaving the video

game industry and switching to a different career. In Chapter 4, Pierson Browne and Brian R. Schram analyse the impacts of indie game development on workplace organization. By stripping away the corporate structure of traditional video game studios, indie development relies on the work of cultural intermediaries to fulfil the roles that were previously handled by producers and other 'support' staff. Drawing from ethnographic data gathered during the 2017 Indie Interfaces Symposium in Montreal, Browne and Schram show how managers and directors of co-working spaces have to engage in undervalued and often gendered relational labour on top of their managerial and organizational duties.

Development

The Section Development takes a closer look at the everyday realities of video game development across various levels, from individual developers to local scenes and regional industries. In Chapter 5, Olli Sotamaa explores how play, which is usually considered a leisure activity, is instrumentalized as part of video game work. First, Sotamaa analyses how playfulness is embodied in the working environments of Finnish game studios and how it is connected to the highly gendered hobbyist origins of the local video game industry. Based on interviews, he then shows the many functions of play within the context of video game production, ranging from team building activities to analytic gaming and benchmarking. In order to preserve the pleasure of play, video game workers develop specific strategies, such as choosing genres or forms outside their professional interest, including analogue games or larps. In Chapter 6, Chris J. Young explores the impact of accessible game development tools, such as the Unity engine, on opening up video game production to hobbyists. At the same time, it is Unity that benefits from the indie rhetoric 'everyone can make a game' by establishing a dominant position in the market. Based on ethnographic research carried out in Toronto's development scene, Young shows how Unity's slogan 'democratize game development' is enacted on a local level through local representatives, workshops, or sponsorship. By providing an accessible game-making tool along with support, Unity is able to tether communities of everyday game makers to its platform ecology. In Chapter 7, John Banks and Brendan Keogh analyse strategies of Australian indie developers that aim to create a sustainable business. Sustainability itself is a contested and problematic notion in an environment characterized by precarious working conditions, as Banks and Keogh show using individual cases, ranging from

a studio opting for a 'games as service' model to achieve a steady stream of revenue to a team funding its first game by helping other studios from the area. Sustainability is thus highly contingent. For some, it means being able to live off making their own games without the need to take outside contract work, although this alone can be hard to achieve; for others it might be not relying on game development as the main source of income. In Chapter 8, Mia Consalvo and Andrew Phelps study the relatively niche sector of video game development live-streaming by taking an in-depth look at two cases. In addition to analysing the formal aspects of the streams and comparing them to the much more studied variety streams, Consalvo and Phelps also focus on their co-creative aspects and investigate the potential educational value of live-streamed video game development. In this regard, the regular streaming schedule, which is incentivized by the platform Twitch, can be beneficial for learning, but it can also lead to burnout.

Publishing & Monetization

The Section Publishing & Monetization highlights issues of video game production that often go unnoticed in game research but which are crucial for the understanding of the economics of the video game industry and have clear implications for creative practices as well. In Chapter 9, David B. Nieborg presents both a case study of a highly influential video game company Activision Blizzard grounded in critical political economy and a methodological framework for studying similar publicly traded publishers. In the context of platformization of cultural production, Nieborg argues that, despite the advent of digital distribution channels, publishers still wield a lot of power through the means of financing, distribution, and marketing, which manifests itself in the way these companies 'format' cultural commodities. By analysing official documents, such as earnings calls transcripts, Nieborg traces the impact of financial decisions on video game titles from Activision Blizzard's portfolio, focusing in particular on the *Destiny* franchise and the acquisition of the mobile developer King. In Chapter 10, Lies van Roessel and Jan Švelch focus on the production context of in-game monetization. While microtransactions have captured the attention of scholars most recently due to the controversy over loot boxes, the current research almost exclusively deals with audience reception. Van Roessel and Švelch present a mixed methods exploration, combining interviews, content analysis of job listings, and in-game credits, of the specific game development task of monetization design and implementation. Although monetization is

often downplayed in official communication, the findings suggest that monetization-related responsibilities are both integrated into existing roles and professions but are also handled by specialists. In Chapter 11, Matthew E. Perks investigates the recent attempts at regulation of in-game monetization. Amidst the recent loot box controversy, which was triggered by *Star Wars: Battlefront 2* in November 2017, publishers were engaging in forms of self-regulation to placate players and prevent further government oversight, although several countries, such as Belgium, have subsequently established laws banning loot boxes. Perks tracks the journalistic coverage of these public discussions and shows that regulation is not dependent on singular actors, such as a state, but that various stakeholders and self-regulatory organizations affect what is ultimately considered an accepted form of microtransactions.

Regional Perspectives

The Section Regional Perspectives is grounded in case studies that highlight the local and regional specificities of video game production. In Chapter 12, Jaroslav Švelch explores the notion of periphery in the context of video game production focusing both on the differences in infrastructures and textual strategies. While often interpreted in negative terms, periphery can also be a thriving environment, for example by giving birth to an active community of hobbyist game creators as was the case in the 1980s and early 1990s in Czechoslovakia. Here, obsolescent platforms, such as the ZX Spectrum, enjoyed a second life thanks to homebrew games and the general dearth of new hardware. While somewhat isolated from the centre of the video game industry by the Iron Curtain, Czechoslovak game creators still played some foreign titles but poached from them in order to create new creole forms and sub-genres. In Chapter 13, Anna Ozimek looks at another former Warsaw Pact country – Poland – and shows how its game industry was established thanks to the commercial success of locally developed games, including the *Witcher* series. Despite the economic growth and consequent government interest in games as an export commodity, the Polish video game industry has been criticized for precarious working conditions. Ozimek argues that the current state of the industry can be explained by the post-socialist entrepreneurial discourses, which emphasize meritocracy and individual resilience. Based on 44 interviews, Ozimek articulates how Polish video game development professionals reflect on these working conditions, often being distrustful of collective mobilization

and aiming instead to find employment in the somewhat fantasized West. In Chapter 14, Akinori Nakamura and Hanna Wirman chronicle the history of the video game industry in Greater China by dividing it into five distinct periods. Synthesizing Nakamura's earlier work, which was published in Japanese, the chapter provides an overview of the historical developments, supported by case studies from the individual periods. Overall, the industry in Greater China has evolved from an early era of piracy in the 1980s through a stage of imitation and innovation in the early 2000s before establishing a local indie scene in the 2010s. Nakamura and Wirman also pay attention to the influence of foreign companies that set up their subsidiaries in Greater China.

Coda

Finally, it is clear that the field of game studies can benefit from more detailed studies of game production. Still, too often the complex processes and networks of game making are ignored, despite making an important contribution to what kind of games are produced and what forms of play are preferred. As much as games revolve around 'player cultures', they are also rooted in the cultures of game production. This volume includes a rich and diverse selection of fine-grained empirical studies of game production and industry. In this sense, the book should be of interest not only to game scholars, but also to practitioners, students, teachers, and policymakers.

We also believe that game production studies can play a role in imagining a more sustainable and less exploitative future. Producing and powering technologies associated with gaming consumes and despoils significant amounts of natural resources. As Richard Maxwell and Toby Miller (2012, 180) point out '[a]n electronic game's life cycle begins in the extractive industries and ends in the salvage and recycling dump.' At the same time, games have the power to translate ecological ideas to people. Cultural industries and policies around them necessarily connect the questions of environmental sustainability to forms of social, cultural, and economic sustainability (Duxbury, Kangas, and Beukelaer 2017). Many chapters in this book document and analyse game developers' discussions around uncertainty, precarity, and (dis)continuity. While some developers seem to be aware of the trade-offs associated with the current game production environment, the efforts to find sustainability in different levels – global and local ecosystems, companies, and individuals – can be in conflict with

each other. Entrepreneurial discourses mobilize a specific conception of sustainability, whereas independent developers often express alternative ideas. Moreover, ambitions change over time and opportunities to achieve any kind of sustainability are not equally divided. As Jennifer R. Whitson, Bart Simon, and Felan Parker (2018, 16) argue, 'emphasizing sustainability talk in games is an important avenue of study because it can reorient cultural entrepreneurship discourse in more positive directions.' Rethinking the ways to evaluate success can lead towards a more equitable and sustainable work ethic – and this applies both to the people who produce games and those who study game production.

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Labour

1. Hobbyist Game Making Between Self-Exploitation and Self-Emancipation

Brendan Keogh

Abstract
Critics of both the game industry specifically and the cultural industries broadly have long drawn attention to how romantic ideals around creative and passionate work are exploited by cultural firms. Long hours, periods of contingent employment, and expectations of unpaid labour are all justified as the sacrifices that cultural workers make in order to 'do what they love'. Drawing from interviews with 200 amateur game makers, a range of complex, and sometimes contradictory justifications of self-exploitation are identified. While some game makers speak of ambitions to one day get paid to make games, many others justify keeping their creative work separate from what they do for money as a form of self-emancipation.

Keywords: creativity dispositif, amateur production, creative labour, hobbyist game making, unpaid labour, working conditions

Labour issues within the video game industry are well-documented. Unpaid overtime, mandated and excessive periods of crunch, unpredictable studio closures and layoffs, and a culture of peer pressure and self-surveillance ensure a low retention and high turnover of staff to such an extent that the average game worker's age sits perpetually at about 30 years old in industry surveys. Of particular interest to game industry researchers has been the cultivation of *self*-exploitation among these passionate young workers, who, for a time, willingly accept such conditions in order to follow their dream of one day being paid to make video games. Greig de Peuter and Nick Dyer-Witheford (2005) call this chewed-up-and-spat-out demographic the 'passionate play-slaves' of the video game industry, while Julian Kücklich's (2005) notion of 'playbour' has traced how a lack of distinction between the acts of (and enthusiasm for) *playing* and *making* video games works in

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favour of employers, who easily monetize the unpaid activity of modders, players, and user-generated content creators. In the video game industry, as in an increasing number of economic sectors under neoliberal capitalism, a clear distinction between work and leisure has crumbled away as people take on precarious, project-based, underpaid (or unpaid), yet seemingly fulfilling work for the opportunity to follow their dreams.

While such critiques are vital for understanding the conditions of work – both cultural and otherwise – in the twenty-first century, they also risk reducing the myriad of reasons for which people undertake cultural activity to purely economic ones. Without a doubt, many aspirational video game makers willingly work for either below minimum wage or no wage at all in the hope that 'one day' it will pay off. But in interviews I have conducted, numerous unpaid independent game makers articulated an explicit lack of desire to one day be paid for their video games. Here is one example:

> [My game making is] mostly a hobby. Before, I was unemployed; professionally, I was a software developer and I have a degree in computer science, so if I really wanted to I could try to make games professionally [...], but I don't really connect with that side of it, so it's very much a hobby. I'm fortunate now to have the time to be not working and doing more creative stuff, so I've been making a fair few games lately but, generally speaking, just every now and then. [...] I didn't really want to go all in on an industry that might get mad at me. So being able to churn out a Bitsy [small game-making tool] game and be like 'well that's over now, I could leave forever if I wanted to', rather than spending years on something big, was really helpful – Hobbyist (non-binary, 25).

Game makers[1] who expressed such sentiments were, in their own minds at least, keeping their creative practice separate from their job as a way to avoid the exploitations of the video game industry. This is the type of game maker that Anna Anthropy might call the 'videogame zinester' (2012) or that Chris J. Young has termed the 'everyday game maker ' (Young 2018): non-professional video game creators in domestic, amateur, or otherwise

1 Throughout this chapter, I use the general terms 'video game maker' and 'game maker' interchangeably in lieu of the more narrowly defined and more technologically connotative 'video game developer' or the more professionally connotative 'gameworker,' which has recently been popularized by the game industry unionization movement Game Workers Unite. Many game makers I spoke to did not feel game developer accounted for their work, and so I have followed Young (2018, 7) in using game maker as the broader category that encompasses both professional and non-commercial aspects of video game creation.

'informal' (Lobato and Thomas 2015) contexts beyond the confines of (but still in relation to) what would typically be understood as 'the video game industry'. These are the video game makers for whom their activity is, for want of a better word, a hobby.

In order to understand the *field* of video game production and not just the industry, it is crucial to explore the conduits of formality and informality that run between the professionalized space of the video game industry, and the much broader space of hobbyist, amateur, and homebrew activity, which predates and acts as the foundation for video game industrialization (Keogh 2019b). In this chapter, I want to consider how game production studies can account for the wider range of reasons one may choose to make and distribute video games other than for actual or hopeful financial gain, while not falling into the trap of glorifying unpaid creative labour in ways that perpetuate the exploitative strategies of the industry. Rather than simply distinguishing between professional and hobbyist means of game making, I will connect a history of hobbies, theories of cultural work, and a reconsideration of how the video game industry is constituted to better articulate the relationships between these different modes and identities of game making within the increasingly self-governed space of what scholars such as Angela McRobbie (2002) call 'soft capitalism'.

The chapter draws from the empirical research I conducted throughout 2018 and 2019 for a larger project with a wide range of formal and informal game makers in Australia, Canada, the Netherlands, and Germany. Across 200 semi-structured interviews, I asked game makers from different backgrounds about why and how they make video games. I was struck by how many self-identifying hobbyists explicitly articulated their work not as a pathway into the game industry, but as a way to avoid what they perceived, much like the scholars cited above, as the exploitative aspects of professional game development.

The first section considers how hobbyist practices fit within the current literature on cultural work and creative labour as a double-edged sword that both serves and potentially disrupts the blurring of work and leisure. In this broader context, the second section considers the re-emergence of the video game hobbyist in recent years as shifts in the structure of the video game industry have led to a rise in entrepreneurial or indie game making activity. The third section draws from my interviews to consider how hobbyist participants articulated their own activities within this context.

Are they self-exploiting cultural entrepreneurs personally taking on the risks and responsibilities that were once those of the state or an employer?

Or have they self-emancipated from an exploitative and toxic industry regime by detaching their creative craft from the need for remuneration? Ultimately, there are no simple answer to these questions, but a multitude of ways in which work and productive leisure have fused to give a particular shape to the cultural industries under neoliberal capitalism, emphasizing the importance of considering a broader field of informal game making practices in our study of the formal video game industry as there cannot be one without the other.

Cultural Work and Hobbyist Practices

Beyond discussions of exploitation of video game industry workers through their passion and play, a range of theorists have looked at how a broader consideration of creativity has been used to harness the immaterial labour (De Peuter and Dyer-Witheford 2005) of knowledge economy workers (Gregg 2018). In her monograph on creative labour, McRobbie identifies creativity as an attribute that 'becomes something inherent in personhood [...] which has the potential to be turned into a set of capacities. The resulting assemblage of "talent" can subsequently be unrolled in the labour market or "talent-led economy"' (2016, 11). Policy discourses, university curriculum frameworks, and popular culture depictions of *creatives* converge to produce what McRobbie calls a 'creativity dispositif,' which functions as a form of encouraging governmentality that instills 'the imperative to "be creative" [as] an invitation to discover one's own capabilities, to embark on a voyage of self-discovery [...] It is an immensely pedagogic invitation [that] seems far removed from the hard facts of self-employment. Insecurity is seen as part of the adventure' (Ibid., 15). Under the creativity dispositif, aspiring creative workers take on poor work conditions and low (or no) pay as a seemingly crucial part of the romantic pursuit of becoming a creative worker.

To seek work in the creative industries is, increasingly, to be entrepreneurial: to identify a gap that one can fill with one's unique skill set, and to invest large amounts of 'sweat equity' into such work in the hope it will one day pay off. Kate Oakley recasts the somewhat attractive go-getter framing of the entrepreneur, for cultural workers, as instead a *forced* entrepreneurship: 'the need for people in rapidly changing industries to adopt worsening working arrangements lies behind much of the growth in entrepreneurship in the cultural sectors' (2014, 149). A process of individualization within the creativity dispositif leads to a

dismantling of the securities and assurances won by workers throughout the twentieth century as individual creative workers now embrace *flexible* work: jumping from one short-term 'gig' to the next – not dissimilar to the entrepreneurial musician (Baym 2018) – using their own computers and ostensibly 'free' software such as Unity, setting up shop in cafes or bedrooms. This instills a culture of *individualization* that is about 'new, more fluid, less permanent social relations seeming marked by choice or options' (McRobbie 2002, 518). For Mark Banks, such 'strong incitements to become more self-directed, self-resourcing and entrepreneurial may enhance possibilities for workers self-exploitation and, relatedly, self-blaming' (2007, 43). This is clearly seen in the video game industry where success stories of self-made indie developers have become ubiquitous over the past decade through narratives such as *Indie Game: The Movie* (Pajot and Swirsky 2012).

Central to the governance regime of the creativity dispositif is a breakdown of any clear distinction (be it in terms of space, time, or intention), between work and leisure. The flexibility of cultural work, the dream of designing a website on a laptop at the beach, easily shifts from 'you can work any time' to 'you should always be working'. Meanwhile, for Banks, the appeal of creatively and personally fulfilling work functions as a 'seduction of autonomy', which is 'strong enough for workers to deny the hardships of individualized work and to eclipse the feelings of exhaustion and despair' (2007, 61). Further, as precarious cultural workers increasingly find themselves 'their own bosses', rather than a member of a firm or a studio surrounded by fellow workers, opportunities for a collective consciousness, or to simply compare one's personal situation with colleagues, become less likely. As McRobbie notes succinctly, 'maybe there can be no workplace politics when there is no workplace' (2002, 522).

It is at the juncture of work and leisure, which is being blurred for cultural workers, that hobbyist cultural activity have long played a defining role. In his extensive history of hobbies in North America, Gelber (1999) identifies hobbies as emerging at another time when the relationship between work and leisure was shifting: the industrial revolution. Industrialism 'quarantined' work from leisure and replaced 'the fluidity of preindustrial time' with 'discrete blocks of commodified time that could be sold for work or withheld for leisure, which led guardians of public morals to fear that time spent not working would be time sent getting into trouble' (Ibid., 1). The hobby, Gelber argues, emerged as a form of 'productive leisure' through which 'the ideology of the workplace infiltrated the home' (Ibid., 2). Hobbies, in the West at least, have long been used as a way to 'provide the satisfactions

of a "career" and confirm the legitimacy of the [capitalist] work ethic even for people in unpleasant jobs' (Ibid., 11) and to 'confirm the verities of work and the free market inside the home *so long as remunerative employment has remained elsewhere*' (Ibid., 4, emphasis added). One can see how the productive leisure of hobbies throughout the late nineteenth and twentieth centuries evolves into the creativity dispositif of the twenty-first century, where the capitalist work ethic of productivity has encroached on the sphere of leisure to such an extent that any clear distinction between the two has fallen away. The two now fuse together for many creatives in their constitution of personal/professional identity. McRobbie makes this connection explicit: 'the intoxicating pleasures of leisure culture have now [...] provided the template for managing an identity in the world of work' (2002, 520).

However, it is exactly at this intersection between undertaking creative activities for work or leisure, for remuneration or creative fulfilment, that both Banks and Gelber see a potential for disruption in the status quo. For Gelber, 'hobbies actively confirm the ideology of the work ethic by providing a productive way to use leisure, and they passively condemn the work environment by offering a contrast to meaningless jobs' (1999, 19). For Banks, the 'artistic desire for *creative autonomy* and independence exist in uneasy tension with capitalist imperatives of profit-generation and *controlled accumulation*' and thus 'the separation of art and commerce is thus a *necessary* feature of cultural industries production and must be at least partially maintained' (2007, 6–7, emphasis original). Thus, Banks sees within cultural work not only the nexus of soft capitalism's individualizing forces, but the potential to 'furnish workers with opportunities to pilot or recover "alternative" forms of production that prioritize aesthetically directed "artistic", "practice-led", or "ethical" values alongside, or in advance of, the pursuit of profit' (Ibid., 183). Within creative hobbyist work, then, the seed of an all-encompassing and insidious system of self-governance – the creativity dispositif – leads to the self-exploitation of cultural workers, but also to potential glimpses of how this system might be escaped and replaced with alternative, non-capitalist means of comprehending and undertaking cultural work.

The (Re-)Emergence of Video Game Hobbyists

Gelber identifies two main categories of hobbies: collecting, which 'reproduces the ideology of the free market', and handicrafts, which are 'an affirmation of the work ethic' (1999, 155). Handicrafts themselves have a

long, complicated, and gendered history as both hobby and creative industry. Suffice to say here, though, is that the act of crafting goods that may or may not one day be sold for a small profit instills a 'fluid spectrum of "am" (amateur) to "pro" (professional) activity' (Luckman 2015, 9), which through its romantic framing of personal creative autonomy free from the need for economic remuneration 'functions as an explicit critique of both the atomized factory and the sterile office by re-creating the ideal artisanal environment' (Gelber 1999, 155).

While Gelber's analysis of handicraft hobbies predominately considers sewing and woodwork, we can easily consider the more contemporary history of hobbyist video game making alongside these. Both dominant and marginal histories of video game production can all agree that before the industrialization of video game production (i.e. the formation of the video game industry), video games emerged from the leisurely and non-productive use of computing technologies – both the professional super computers of military and educational institutions and as domestic microcomputers in dire need of a purpose. In various countries, it was the student communities, homebrew scenes, and demoscenes that birthed and developed the video game form (see Jørgensen, Sandqvist, and Sotamaa 2015; Švelch 2018; Swalwell 2012). This point cannot be stressed enough: video games, and video game makers existed before the video game industry, and 'amateur-game design is by and large the norm by which game development occurs, and out of which commercial game production continually emerges, reacts and shifts' (McCrea 2012, 179).

As a video game industry formalized through the 1970s and 1980s in select parts of the world, hobbyists and amateur game making activity remained common. Indeed, as video games were still relatively easy to make and distribute, and with many early video game companies forming somewhat informally in garages and bedrooms, a clear distinction between amateur and professional video game making practices remained relatively ambiguous. But through the late 1980s and 1990s, the video game industry underwent a period of seismic shifts technologically, culturally, and structurally, which I have theorized elsewhere as a period of *aggressive formalization* (Keogh 2019a; see also Cote 2018; Kirkpatrick 2012; O'Donnell 2014). Following the North American console video game crash of the early 1980s (popularly blamed on the ease with which games could be made and sold at the time), the subsequent rise of Nintendo in the North American video game market saw an introduction of strict editorial policies and lock-out technologies that greatly limited who was able to distribute video games (see O'Donnell 2014, 167–216 for an extensive critique of the impact

of the Nintendo Entertainment System on video game making cultures). At the same time, consumerist discourses of game journalism magazines, led by *Nintendo Power*, and the adjacent 'console wars' that tied video game quality to a perpetual technological arms race, effectively priced amateurs and hobbyists out of making video games that a public could recognize as 'video games' at all.

Hobbyist game making did not disappear through the 1990s, but it did become explicitly secondary to (and obscured by) the concerns and outputs of the formal industry. For instance, modding and user-generated content have received extensive scholarly attention (see J. Banks 2013; Kücklich 2005), but are largely framed in the literature as activities undertaken by *players*, not game makers (at least until their creators transition to industrialized modes of production). The extensive amateur communities that existed around Flash and RPG Maker in the late 1990s and early 2000s, meanwhile, are yet to receive the scholarly attention they urgently require (see Ito 2005 and Salter and Murray 2014 as two exceptions).

This era of aggressive formalization and the distribution bottlenecks of the major publishers and platforms has only recently been superseded – or, at least, circumvented. The rise and normalization of digital distribution through the 2000s, and the increased accessibility of commercial game engines such as Unity and Unreal through the 2010s (see Nicoll and Keogh 2019) has instead given rise to a period of intense *in/formalization*. Professional game making businesses, hobbyists, students, and artists are all using the same tools and distributing through the same digital platforms to such an extent that it is now commonly unclear – to the makers as much as to the players – just who is a professional and who is an amateur. In line with the emerging entrepreneurial models of cultural work outlined in the above section, individualized and entrepreneurial (in a word, indie) game making has again blurred the once-distinct boundaries between professional and amateur game making practices.

For Christian McCrea, 'while the independent and the professional [game] developer are blurring roles in some senses, the amateur-game developer and the independent-game developer are increasingly distinct' (2012, 178). Empirically, when one speaks to game makers themselves, this is undeniably true, as the entrepreneurial 'indie' trying to start their business has very different concerns and ambitions than the hobbyist seemingly content to make small games on the weekend. At the same time, however, the intense in/formalization of the industry makes it even harder to discern

just which video game makers are indeed hobbyists, and which are aspirational entrepreneurs as they often all get lumped under the same indie label – i.e. *not* AAA. Here Anthropy's notion of the 'video game zinester' is helpful. For Anthropy, conceiving of video games as zines and their non-industrialized creators as zinesters imagines a world in which 'digital games are not manufactured by publishers for the same small audience, but one in which games are authored by you and me for the benefit of our peers' (2012, 8). On this side of the game industry's period of aggressive formalization, 'choosing' to be a video game hobbyist – to make games for reasons other than making money – is an almost radically political act, as it requires a conscious rejection of trying to 'make it' in the industry (by a specific and narrow definition of both 'industry' and 'making it'). As Gelber notes, 'the handicrafter evokes the mythical purity of the preindustrial artisan' (1999, 156) and, indeed, in her manifesto Anthropy explicitly refers to a time of video game hobbyist production before the industry took over.

Today, video game hobbyist activity is highly visible in video game culture. While commercial distribution and development platforms such as Steam, the App Store, and the Unity Game Engine are all significantly easier (in terms of both required resources and skills) to access, individuals and collectives have also produced and shared grassroots platforms for easy development and distribution. These include itch.io, a free and unregulated alternative to Valve's Steam with several high-profile indie games, but overwhelmingly populated with free, amateur, and student productions. On the development side, the reappropriation of interactive fiction tool Twine, and the development of deliberately accessible game-making tools such as Bitsy or Pico-8 have greatly encouraged hobbyists scenes and communities of shared resources, zines, and games. In many ways, the increased accessibility of the tools of production and distribution have opened up a range of game-making identities not dissimilar to the range of pro-am musician identities. Musicians cover the gamut from international superstars, national celebrities, buskers on the street, cover bands playing in a local pub on Sundays, and teenagers in a garage. Some have dreams of transitioning to one or the other, others are perfectly happy with what they are currently doing. Video game production, like music, is not just an industry but a field, and encompasses a range of professional, entrepreneurial, and amateur creative identities.

How, then, do the labour and identities of those hobbyist game makers who articulate their own practice as 'not work' fit into this picture? Have they been duped by the creativity dispositif? Or have they escaped it?

Self-Exploited or Self-Emancipated Game Making?

Early in her manifesto, Anthropy directly accuses the video game industry of obscuring the hobbyist approach to making video games in order to control the means of video game production:

> [...] the same false sense that the knowledge needed to create videogames is unattainable without special institutional training is the same carrot the Big Games Industry uses to entice wannabe game artists into taking jobs within their system – and putting up with insane hours and ridiculous working conditions [...] The industry gets away with [these conditions] because it's convinced its employees that these jobs are the only gateway to video game creation (Anthropy 2012, 17–18).

In interviews I conducted through 2018, similar sentiment was voiced by a number of independent game makers: the notion that unpaid game making in their own time was a necessary precursor to 'making it' in the industry, and extensive self-exploitation by game makers making sacrifices and taking personal risks to try to enter the 'Big Games Industry' was prevalent. A common theme was the independent developer artificially keeping a studio afloat with their personal savings while waiting for one of their games to become a hit:

> If we don't have the money then we can start to be like alright I'll make a personal loan to [our company] and then [the company] can pay me back when [it] has money. [...] We're just waiting for that hit to then be like alright we have enough to pay back all these loans and then start paying wages but probably that will never happen. – Creative/Managing Director (Male, 28)

At the same time, however, other game makers, who explicitly considered themselves either hobbyists or amateurs, justified their unpaid hobbyist game making as a conscious choice to avoid the self-exploitations seemingly required to be part of the industry:

> While I would like to make money from development I would not like it to be my only source of income. I worry that I would burn out or become bored – Hobbyist (Female, 24).

> I enjoy the lack of stress and emotional investment that comes with publishing freeware. I also believe there's something to be said for

> exploring games that don't have 'financial viability' as a core design pillar. On the other hand, I'd like to be able to find more time for game dev [development]. It's somewhat of a tradeoff – Hobbyist (Male, 24).

> I've done it professionally before and it ruined my enjoyment of it for some time. I prefer to have it as a hobby – Hobbyist (Male, 33).

> I like doing it in my spare time because I can do as much or little as I want – Hobbyist (Female, 27).

This is strikingly at odds with the encouraging excitement of the creativity dispositif, which makes self-exploiting workers think the struggle is part of the adventure and which works to defuse any sense of collective political consciousness. Instead, these game makers show a clear political consciousness in the *rejection* of the industry's conditions. Indeed, in both Anthropy's writing and my interviews, there is a clear sense of not that this unpaid labour must be undertaken to make it in the video game industry, but rather a belief that making video games does not require one to be in the videogame industry at all.

For Gelber, the fact that some people willingly do in their spare time what others do for a living points to hobbies not as an escape from work but as 'a return to traditional nonalienated forms of labor' in which 'participants determine the form, set the pace, and are the sole beneficiaries of the fruits of their labor' (1999, 19). Yet, he is ultimately sceptical that this points to a 'return to a golden age of labor' and instead sees such hobbyist activity as 'exercises that serve to ideologically integrate work and leisure by permitting workers to engage in worklike behaviour in a noncoercive environment' (Ibid.). Here, we can also think of McRobbie's notion of the creativity dispositif as encouraging, rather than coercive – reframing unpaid work and hardships as part of the adventure of undertaking 'creatively fulfilling' work. Similarly, Aleena Chia (2019) has looked at how video game businesses directly and deliberately benefit from the 'vocational passion' of their hobbyist playerbase. The hobbyist game worker might be conscious of and articulate the coercive and exploitative nature of the video game industry and cultural work, but this does not necessarily mean they have escaped.

Perhaps these hobbyists are not escaping the nets of the creativity dispositif or neoliberal soft capitalism, but, as one of McRobbie's students justifies her own entrepreneurial activities, finding 'a means of creating a space within a system that is so all-encompassing that it is difficult to

imagine an alternative. To have seemingly circumvented unhappy work and to have come upon a way of earning a living without the feeling of being robbed of identity or of ability' (2016, 23). Jaroslav Švelch, in his historical study of video game hobbyists in 1980s Czechoslovakia, similarly finds value in Michel De Certeau's notion of top-down strategies and bottom-up tactics, in which tactics are 'an art of the weak' deployed to find ways to 'make do' (2018, xxxiii).

While McRobbie is interested in her students' articulation of their tactical entrepreneurial work, she still stresses that 'the larger question, of course, is how this fits with the needs of a form of cultural capitalism that is currently re-inventing itself as innocuous or "soft"' (2016, 23). Yet, I cannot help but think of the clear difference between those game makers I interviewed who were trying incredibly hard to make game making their primary income – commonly exhausted, downtrodden, stressed – and those who had consciously opted out of that race to make games in their own time, around unrelated work – relaxed, sated, content. To me, these were not exploited and downtrodden workers, but creators who had explicitly and deliberately opted out of a game that would never work in their favour.

Several researchers of cultural work have found cause for cautious optimism in the current state of a seemingly pervasive creativity dispositif. For Banks, there is an irreparable chink in the armour of capitalist control of cultural work as 'while the corporate pursuit of generic formats threatens constantly to undermine artistic autonomy and impose creative closure, it can never fully control and standardize cultural work since some degree of creative autonomy always remains necessary for producing new goods. It is in this institutionalized permission to rebel that we can identify the key radical potential of cultural work' (2007, 185). Elsewhere, de Peuter hopes that the creative worker can defy 'its reputation for being the role model for contemporary capitalism' through 'exploring strategies for combating workforce fragmentation, mutually confronting rather than privately managing precarity, and turning capacities susceptible to flexible labour control against it' (2014, 277), and points to several emerging examples (co-working spaces, freelancer unions, etc.) of acts of resistance, and new forms of subjectification 'that do not wholly respond to a neoliberal logic of exploitation' (Ibid.).

Hobbyist game makers are, on the one hand, susceptible to the encroachment of a diligent capitalist work ethic, carried by the Trojan horse of creative fulfilment, which invades leisure time via the hobby. On the other hand, they consciously acknowledge and reject the game industry's logics of exploitation, overwork, and misogyny. There is a cause for optimism, I

believe, in the emergence and distribution of non-commercial game-making tools and distribution services, such as Twine, Pico-8, Bitsy, and itch.io, which are community-driven, and arguably further de-alienate hobbyist craft from its value than would a hobbyist still beholden to Valve's Steam platform or Unity's game engine.

Ultimately, as I warned in the introduction, there is no simple answer as to whether these game makers are self-exploiting or self-emancipating. The former denies a political consciousness present in the articulations and identifications of these game makers, and the latter suggests a complete escape from soft capitalism even as the hobbyists' labour and cultural capital is fed back into and exploited by game industry production (see Ruberg 2019 for one example). Ultimately, perhaps hobbyist game makers should be understood as *tactical game makers*; they have not escaped the top-down strategies of neoliberal capitalism and individualism, but nor are they simply playing ball in the way they are expected to. Instead, they are finding ways to 'make do' rather than trying to 'make it', and are developing their craft in a way that avoids a perceived drudgery and exploitation of both factory and entrepreneurial modes of industrialized video game production.

Conclusion

At the 2018 Game Developers Conference in San Francisco, a collective of professional and amateur game makers protested a talk given by the Executive Director of the International Game Developers Association that was largely perceived to be anti-union. This protest grew over the course of 2018 into Game Workers Unite (GWU) – not quite a union, but a collection of communities advocating for unionization and collectivization throughout the game industry (Frank 2018). Central to GWU's original groundswell were independent game makers, who do not work at large studios but are active members of their local game maker communities. Detached from the surveillance culture of large studios, these marginal game makers were able to begin aggravating for solidarity in a way that a large studio employee could not.

At the time of writing, the video game industry is undergoing something of its own belated #metoo movement, with various prestigious game industry men being publicly accused of sexual harassment. This campaign began with a long blog post from artist-game maker Nathalie Lawhead, themself a maker of critically acclaimed games, but who is still somewhat peripheral to the formal video game industry. This is continuing to pick up momentum

and exposure, with many studio-embedded workers following suit to talk publicly about their own experiences of abuse in the video game industry. While vague and anonymous stories of sexual harassment within the game industry have been well documented for years, once again it was from beyond the large studios of the industry that a more direct call to action emerged.

I note these anecdotes to stress that the video game industry and the broader field of hobbyist, amateur, artistic, experimental, and otherwise informal video game production are not easily distinguished but instead deeply and intimately interconnected. The possibility and groundswell for political change or aesthetic innovations commonly come from those at the margins. At the same time, even as these hobbyists (broadly defined) might choose or feel required to opt out of the video game industry, the video game industry nevertheless benefits from their labour, be that claims to greater diversity through the work of queer informal creators, appropriation of innovative designs, or the platform logics of the likes of Unity or Steam that appropriate all labour conducted and capital generated through their infrastructure.

For game production studies, while it remains vital that the labour conditions and political economy of the formal industry is analysed, critiqued, and understood, it is also crucial that the full field of game-making practices and identities, which the formal video game industry is shaped by and reliant on, are considered and contextualized. Just as both international rock stars and bedroom DJs can be understood as being musicians, even though their economic situation and ambitions remain radically different, nuance and granularity must be applied to the different scales of game-making activity – both in terms of how they are different and how they are similar.

This chapter has worked to provide a preliminary way of thinking through alternative modes of video game production that are neither simply autonomous, nor exploited modes of gamework. It is not simply the case that hobbyist game makers are detached from the broader systems of self-governance and self-exploitation that the game industry is encompassed by, but instead they demonstrate alternative ways to *be a game maker* than those industrialized modes often unconsciously accepted – by scholars, by society, by game makers themselves – as the *only* way to be a game maker. In order to understand video game making as cultural labour, it is necessary to look at the various productive and non-productive, rational and irrational, commercial and creative reasons why different people undertake game making activity in the first place.

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2. Self-Making and Game Making in the Future of Work

Aleena Chia

Abstract
Paid work has been a keystone of morality, normativity, sociality, and identity in capitalist societies. However, as the future of work is ushered in by technological unemployment, flexibilization, and precarity, researchers have to contend with what has been called the post-work society. The cultural industry of video game development provides a vantage into this future of work because it has been dominated since its inception by a vast field of informal creators and intermediaries, some of whom are paid for their activities while the vast majority are not. This chapter argues that gaming hobbies are exemplars of a conceptual shift in productive leisure not just as a mediating category in industrial capitalism but a mediating stage towards post-work.

Keywords: hobbies, post-work, digital labour, serious leisure, volunteerism

Introduction

This chapter is about how people use games and collective practices around playing and creating games to make sense of where their lives are going, where they have been before, and why it all matters. Sociologists such as Anthony Giddens (1991) call this the reflexive project of the self. In what Giddens characterized as the late modern age, this autobiographical process relies less on fixed social roles such as religion and class, and more on chosen aspects of one's life such as consumption and leisure. In particular, the waning of work as a stable source of identity has been core to influential arguments about the shift from Fordist to post-Fordist systems of production in Western societies. Richard Sennett (1998) argues that this 'new economy' of short-term teamwork and risk-taking erodes the sense

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of sustained purpose, integrity of self, and trust in others that previous generations associated with personal character. Zygmunt Bauman (2004) contends that as steady, durable, continuous, and structured working careers become rarer, people are struggling to define a sense of coherent identity through paid employment. In the past two decades, these accounts have been complicated and critiqued (Adams 2003; Strangleman 2007); yet, the ramifications of short-term and precarious work for human subjectivity are palpable (cf. M. Banks 2019).

Research in this area has considered how deindustrialization, globalization, and automation have led to high levels of technological unemployment and the 'End of Work' (Aronowitz and DiFazio 2010; Rifkin 1995). One thread of this research considers how these economic shifts have dismantled the Fordist social contract, which demanded a lifetime of compliance and discipline from workers in return for purchasing rights and social inclusion. Paid work is key to social belonging and individual achievement in capitalist societies. It is the primary means by which individuals are integrated into the economic system, but also into social, political, and familial modes of cooperation. Some of these studies propose how the 'post-work' society could be reorganized more equitably by reorienting social values and economic policy around social reproduction and care work (Hester 2018), by providing citizens with a basic income (Srnicek and Williams 2015; Standing 2017), and by countering beliefs about the sanctity of the work ethic (Graeber 2018; Weeks 2011). Other studies have suggested how, in the absence of enduring work, some people are turning to their achievements and relationships in leisure-based communities of practice (Chia 2019; cf. Stebbins 2017) and civically oriented volunteerism (Muehlebach 2011) for continuity, progression, and value in their sense of self.

Synthesizing research from game studies and cultural industries, this chapter puts post-work arguments within the context of game production. Giddens (1964, 86) commented in 1964 that professions with indeterminate divisions between work and leisure would experience 'considerable ideological ambiguity between values oriented towards stressing the value of work and those which emphasize the potential satisfactions of play.' Today, this ideological ambiguity is a defining feature of creative industries (McRobbie 2016). Like other popular cultural industries, the meaning of productivity in game production is not contained within the institutions of work. Relative to other creative industries, what it means to be productive in game production is densely interwoven from consumptive and leisure practices across personal biographies and collective identities as fans, players, and hobbyists. Game creators often start out as players and fans, moving in and

out of formal, informal, and intermediary roles as they collaborate on online platforms, in maker spaces, and in hobby organizations. Game production has been dominated since its inception by a vast field of informal creators and intermediaries (Parker, Whitson, and Simon 2018), some of whom are paid for their activities while the vast majority are not (Keogh 2019a). Many create and contribute to gaming within the widening margins between production and consumption, in the mediating category of productive leisure known as hobbies.

This chapter argues that the productive leisure of game production can provide a model for recuperating a sense of personal progression by relying less on economic measures of productivity and more on shared markers of individual competency and contribution to collective play practices. Modelling this shift across other cultural industries can be a step in reshaping the work ethic towards a more equitable and sustainable future of work. This argument proceeds in three parts: I outline post-work visions of the work ethic, in the context of post-Fordist relations of production that integrate leisure into its platforms of value creation. Second, I contextualize these proposals within cultural industries research on selfhood and career progression, with attention to game production studies. Third, I suggest that this shift in values about productivity will not come solely from revolutionary demands made by some post-work scholars, but also from the incremental boundary work of realigning work and leisure away from models of mutual exclusion and towards mutually inclusive understandings of productivity as contributions to a commons that is both social and economic. This heuristic shift away from models of mutual exclusion contributes to game studies by suggesting how decoupling duty of labour from the reward of leisure can help us understand productive gaming practices not as liminal to work and play, but as constitutive of modern capitalist life.

The Post-Work Ethic

Accelerationism is a political theory that responds to capitalism not through protest or critique but by accelerating its uprooting, alienating, and abstractive tendencies (Mackay and Avanessian 2014). The vision of post-work society by accelerationists such as Nick Srnicek and Alex Williams (2015, 108) involves 'fully automating the economy, reducing the working week, implementing a universal basic income, and achieving a cultural shift in the understanding of work.' According to Srnicek and Williams (2015), the biggest hurdle for proposals of a universal basic income

is not economic, but cultural and political: the work ethic is so deeply ingrained into identities of citizens and residents that the unemployed or underemployed are deemed unworthy of welfare, especially when it is not means-tested. Means tests are evaluations of a person's or household's financial circumstances to determine their eligibility for social welfare programmes. Crucially, this vision combines the future orientation of utopias with the immediate intervention of the reformist demand based on current tendencies and crises (Srnicek and Williams 2015). In other words, accelerationist demands are grounded in analyses of the present situation, which may not break us out of capitalism, but may break us out of neoliberalism towards a more equitable configuration of political, economic, and social forces.

This section analyses the accelerationist demand about cultural attitudes towards work, contextualizing it within research on post-Fordism's integration of leisure and consumption into circuits and platforms of production that are diffused throughout our lives. Feminist scholar Kathi Weeks (2011) contends that many workers today approach their work as if it were a career, just as the Protestant ethic conditioned workers to treat their occupation as if it were a calling. Instead of spiritual deliverance, work today provides the potential for social mobility as well as the promise of self-expression and self-fulfilment (Srnicek and Williams 2015). This glorification of paid work as a fundamentally human endeavour is key to social belonging and individual achievement; it constitutes the ideological foundation of contemporary capitalism.

Weeks (2011) emphasizes that the ideology of work establishes an ethical link between restraint and indulgence that frames leisure and consumption as rewards only deserving of those who perform paid work. In a similar vein, Srnicek and Williams (2015) state that the central ideological support for the work ethic is that remuneration is tied to suffering. Anthropologist David Graeber (2018) traces this conviction of work as self-sacrifice or self-abnegation to the Victorian essayist Thomas Carlyle's 'Gospel of Work,' which decreed that work should be painful and that the misery of the job is itself what forms character. The Gospel of Work conferred onto work a sense of nobility that made its compensation unnecessary or at least incidental – a legacy that carries on today in what sociologist Andrew Ross (2000) calls the 'sacrificial ethos' of cultural workers such as artists, who willingly accept deeply discounted compensation for their labour.

The pain and glory of work and its regulation of sacrifice and gratification is part of the work ethic's compensatory morality that has adapted from Carlyle's Gospel of Work to the contemporary mantra of 'Do What You Love'.

Elsewhere, I outlined how game industry aspirants use this compensatory morality to weigh their vocational passion against expectations of precarity (Chia 2019). In other words, aspirants felt that precarity was an acceptable trade-off for combining their gaming hobbies with their job. This compensatory morality relates to what Weeks (2011) calls the producer-consumer antinomy, which affirms that consumer goods are the reward for and a sign of one's contributions and status as a producer. This encouraged the belief that earning wages gave people the right to spend and that working hours authorized leisure time. Through this compensatory reasoning, industrialism carved out ethical connections between work, wages, consumption, and leisure. Because of this mutual implication, decentring paid work – as demanded by accelerationists – is not a question of posing labour against leisure, for in this dichotomy work remains dominant (Aronowitz and DiFazio 2010).

Leisure is not simply the absence of work or free time from work. From its modern incarnation during industrialization, leisure has been and continues to be a normative institution for how the working and professional classes should spend their free time in socially sanctioned and economically productive ways. Industrialization lodged work at the centre of life and relegated non-work to a secondary, moderating function. The touted function of leisure was never for its own sake, but to counterbalance work by providing physical and mental rejuvenation for another day of toil (Gelber 1999). Leisure pursuits associated with idleness and hedonism were tolerated, while those that reinforced industriousness and economic productivity were extolled (Rojek 2009). Under industrial capitalism, play activities were accepted in schools only if they were associated with utilitarian goals (Kirkpatrick 2013). This utilitarian criterion continues to be deployed in popular culture to vindicate gaming practices such as e-sports as professionally and economically productive (Witkowski and Manning 2019).

Post-Fordism has made the times and spaces of labour and life increasingly indistinguishable, arguably making work's compensatory morality with leisure more intractable. Post-Fordism traded relatively stable long-term employment relationships for just-in-time and symbolic forms of production (Hardt and Negri 2001) that depended on communication networks and were more easily subcontracted and decentralized (Harvey 1992). Flexible, networked, and symbolic forms of Post-Fordist production stretched out the value chain by integrating consumer activity at various stages, for example through platforms and processes for user-generated content or co-creation. Mark Deuze (2006) qualifies that people still make meaningful distinctions between work, leisure, and other key organizing

categories of modern society, but any mass consensus about their inherence has eroded.

Post-work demands for changed attitudes towards work must account for leisure as intimately related to productivity in capitalism's organization of how one lives, works, reproduces, and relates to others. Accelerationists Srnicek and Williams propose the following measures to resist the work ethic:

> Changing the cultural consensus about the work ethic will mean taking actions at an everyday level, translating these medium-term goals into slogans, memes and chants. It will require undertaking the difficult and essential work of workplace organizing and campaigning – of mobilising people's passions in order to topple the dominance of the work ethic (Srnicek and Williams 2015, 126).

Post-work's resistance to work's value, its reduction of work hours, and its proposals for basic income must account for the compensatory morality that tethers labour to leisure. One's choice of and attitudes towards leisure derive their meaning *from* the work ethic, not in spite of it. Since leisure is systemic to capitalist work, it must also be integral to post-work proposals. Without dismantling the morality of paid work's worthiness for recompense *and* recreation – as Marxist feminists such as Leopoldina Fortunati (2007), Kylie Jarrett (2015), and others have done – accelerationist slogans, memes, and chants will not become part of public discourse or policy in meaningful ways. Srnicek and Williams (2015, 125) encapsulate that 'with work tied so tightly into our identities, overcoming the work ethic will require us overcoming ourselves.'

Self-Making in Creative Industries

In *Bullshit Jobs*, Graeber (2018) summarizes a contradiction arising from over a hundred studies in the past twenty-five years: many workers found their jobs uninteresting, unstimulating, and unimportant, yet still chose to work not just as a course of livelihood, but as a means of self-respect and self-definition. Although work has become less stable and more fragmented over this period, many people still look to work for a sense of self and a story about their lives. This section outlines arguments about this process of self-actualization through work and its adaptations to the New Economy, cultural industries, and the field of game making.

Two decades ago, sociologists such as Sennett (1998) argued that older features of working life such as the career pathway and ladder of promotion were in decline. Sennett lamented the loss of an autobiographical sense of self people developed through stories they told each other in a stratified but secure workplace. In the past, even though the work itself was routine, workers could gather in the pub at the close of the day to exchange stories about their jobs and colleagues, often over a lifetime. In comparison, the New Economy workplace was increasingly fissured and marked by fleeting and impermanent relations (Weil 2014). As employment that was durable and continuous, logically coherent and tightly structured became the exception rather than the norm (Bauman 2004), it became harder for people to construct a life project or an enduring sense of identity on the foundation of work as they knew it (Gorz 1999).

Sociologist Tim Strangleman (2007) summarizes that these 'End of Work' accounts were united in their regret for the loss of a characteristically masculinized form of work and family wage. These accounts also posited a new kind of entrepreneurial employee who manages a portfolio of jobs and packets of work rather than a traditional career. Anthropologist Ilana Gershon (2017) offers that New Economy workers are expected to switch jobs every few years with the right companies to craft resumes with upward career trajectories and steady salary increases. Gershon adds that professional social network services such as LinkedIn have created expectations for people to make their work histories publicly available instead of privately circulated. Strangleman emphasizes that even precarious and fragmented work provides structure and meaning in people's lives. Identity formation is a social process, fraught with contradiction, and achieved over time, in which people understand themselves as active agents. The entrepreneurial self narrates a different kind of self-realization through work, based less on the structure of work and the community it affords, and more on the work itself (Muehlebach 2011, citing Donzelot 1991).

Over the past decade, studies have shown that UK creatives often hold multiple jobs and that their creative work is project-based and organized around irregular, short-term contracts with little job protection and benefits (M. Banks and Hesmondhalgh 2009). In a recent article, communication researcher Mark Banks (2019) assesses the claim that such precarious work and the lack of structured career progression has made it harder for creatives to narrativize their working lives into meaningful linear biographies. By re-interviewing creative workers decades after their first interview, Banks (2019, 552) found 'there are some cultural workers (in this case, owner-managers) who are more significantly endowed with the capacity to control time, to

map out stages of life, and secure themselves against the contingencies of the event.' This finding highlights exceptions to the idea that narrativized biographies are redundant structures for self-understanding in creative fields in the New Economy.

Like other creative industries, the precarity of video game production challenges biographical modes of self-realization. Additionally, commercial video games' highly rationalized and modular production processes challenge portfolio modes of selfhood. At the same time, relative to other creative industries, the institutionalization of gaming's diffuse production circuits beyond full-time and permanent employment facilitates the building of social connections between paid and unpaid game workers and the crafting of professional biographies between paid and unpaid game work.

Games researcher Aphra Kerr (2017) informs that successful commercial games require the coordination of globally distributed teams with creative, technical, and business expertise. This involves substantial below-the-line processes such as marketing and quality assurance processes such as playtesting, which lack the prestige of creative work, but are where many industry hopefuls find their first jobs (Bulut 2015; Ozimek 2019). Teams working off-site or offshore on a narrow slice of the game may not see a project through to completion. Contracted workers in the fissured workplaces of game production may not be included in closing credits. Workers who are abstracted from game products or services they have contributed to and lack resumes or portfolios with an upward trajectory may also struggle to craft a sense of self through work.

This circuit of game production encompasses a wider network of player associations that perform community management, co-creation, and content-creation (Kerr 2017). Games researcher John Banks (2013) informs that user-generated content in the form of players' feedback, commentary, and fan creations on and around game platforms is integral to the production of multiplayer online games, which are not finished products but are continually updated services that adapt to player engagement. Sociologist T. L. Taylor (2018) suggests that engagement with proprietary gaming services by livestreamers are not culturally intermediary but transformative, which needs to be reflected in current frameworks of intellectual property. Media scholars David B. Nieborg and Thomas Poell (2018) state that video games are no longer produced in a predominantly linear process but are 'contingent commodities' that are modularized, constantly altered, and optimized for platform monetization. More than other entertainment industries such as film and television, online gaming's contingent commodities rely on

engagement from players and amateur designers not just as consultants and promoters, but as an intrinsic part of its core service. This may contribute to a relative porosity between paid and unpaid work in gaming, as compared to other entertainment industries.

A different mode of self-realization emerges in these sprawling circuits and networks of game production, one that perhaps has the potential to decentre paid work. In *The Jobless Future*, sociologists Stanley Aronowitz and William DiFazio (2010) ask what can replace work in self-formation after five centuries during which work has been upheld as the Western cultural ideal. The work of game production is not always paid or duly acknowledged; but, like Sennett's workers who exchanged stories in the pub, it is always social and often happens over a lifetime. Game scholar Brendan Keogh (2019a) suggests that the focus on AAA game production misses the legions of people making games as an everyday practice, who may not aspire towards commercial success or employment in a development studio. Keogh (2018) states that like writing or music, making video games is not *fundamentally* an economic activity and should be considered primarily as a creative process and secondarily as an industry. There is a broader range of informal practices of game development and distribution that are not market-driven, which are integral to the formal video game industry (Keogh 2019a).

These practices of making games online and offline in communities and associations provide structure and meaning for narrativizing the self. In line with Strangleman's (2007) insights, self-narrativization is an active process and people will weave together a sense of who they are and where they have been even with fragments of precarious, informal, and volunteer work for game companies and player associations. Elsewhere, I have described how not-for-profit gaming organizations provided a codified structure for gaining and displaying personal competence and social influence (Chia 2019). Gaming hobbies provide the self-defining career pathway, the ladder of promotion, and the role of bureaucracy that Sennett (1998) lamented were missing from modern work. Many hobbyists I interviewed spoke proudly about their 'club résumé': a document of past achievements as game makers, organizers, and players that is circulated within gaming organizations and hobbyist scenes to demonstrate competence for volunteer roles. For example, Ned was a volunteer storyteller in the Boston chapter of a live-action role-playing hobby club with over 3000 members across the United States. As a middle-level manager in the club's hierarchical organizational structure, Ned oversaw around twelve local storytellers in Boston, New York, Connecticut, and Rhode Island.

When I asked Ned to describe his volunteer work, he rolled his eyes to emphasize how much he had done and listed ongoing tasks such as electing new and sanctioning errant storytellers, managing their writing of game plotlines, mechanics, and negotiating with the club's board of directors to reform procedures for organizing regional conventions. Ned reassured me that he did not do all of this alone. He had four assistants overseeing plot development, seven writers planning special events and overseeing the overall cosmology of games in the region. He also had a chief of staff and assistants taking care of recruitment and scheduling. Listing items on his club résumé, Ned emphasized that these responsibilities were accrued over three years in nine different elected and appointed storytelling positions at local, regional, and national levels of the organization. Like the work résumé, the club résumé frames experiences in hobby organizations as a trajectory of accumulated skills and increasing responsibilities, in a structure similar to that of a professional career.

For many gaming hobbyists in my study (Chia 2019), their progression in informal game making had the durability and continuity missing from their paid work in creative industries. For example, before moving to Boston, Ned undertook a string of jobs as a play-tester for several large video game development studios. He was one of 600 workers organized in three eight-hour shifts, who tested content around the clock. The modularity and transience of shift work in knowledge economies – often terminated before the end of a playtester's contract – made it hard for Ned to interact, much less socialize with his colleagues. This contrasted with the lasting social circle formed through the national gaming hobby organization, which gave Ned and others like him leadership and reputation building opportunities that were portable despite moving from the South to the Northeast.

This systematic pursuit of leisure activities in complex organizations often takes the structure of careers in which hobbyists acquire specific knowledge, skills, and experiences. These careers bear a profound sense of temporal continuity in terms of social, personal, skill growth, and reputation as competent, knowledgeable practitioners. In addition to amateur and volunteer activities, these pursuits are known as 'serious leisure' (Stebbins 2017). Sociologist Garry Crawford (2004) offers that fans within sports communities also talk about their practice as a career path, which provides a sense of structure and recognition for activities that dominate so much of their lives. Gaming practices in hobby organizations are serious leisure whereby members use hierarchical volunteer systems and club résumés to structure and communicate an upward trajectory of achievement, recognition, and status, which may be missing from many of their professional lives.

Boundary Work and Leisure

In *Creative Justice*, Mark Banks (2017, 42) states: 'work is a moral endeavour. But that doesn't necessarily mean it's any good.' This suggests that not only are the meanings and values of work constructed but that they can be reconstructed. Both the end of work and post-work writers respond to technological unemployment with some form of basic income. Strangleman (2007) summarizes that end of work arguments propose a mix of paid employment and voluntary work, with the state providing a minimum income. The point made across these proposals is that the revival of civil society can only be achieved by decoupling paid work from a person's right to sustenance. Cultural theorist Bifo Berardi (2009) declares that the economic framework of income in exchange for work has to be abandoned and that doing so will require a fundamental shift in the way people value themselves and relate to each other as human beings. This shift entails not just rethinking paid work, but also leisure and unpaid work, such as volunteer efforts in gaming hobby organizations. This means philosophical and pragmatic considerations of the human condition, and whether it should be defined by economic, libidinal, or social forms of productivity.

Work has been a keystone of morality, sociality, and identity in capitalist societies for centuries. Political theorist Anton Jäger (2018, para. 32) observes, 'Since leisure was a dialectical counterpart of modern employed work under capitalism, it also was utterly conditioned by it.' Sociologists Robert Snape et al. (2017) state that the work–leisure binary is no longer fit for purpose, and that a semantic reformulation of this binary needs to go hand in hand with economic and social reforms such as basic income. Human flourishing in a post-work society 'is likely to require a new and socially shared understanding of leisure that is much more than just the opposite of work. If work is to lose its current meaning, work-based understandings of leisure must also change' (Snape et al. 2017, 190).

Reformulating the work-leisure binary is not simply a matter of hybridizing polarities into a neologism (Chia 2020). For example, in sociology, the concept of prosumption emphasizes productivity harnessed from the rationalization of consumptive practices, while in games research, playbour looks at how digital environments extract commercial value using techniques and ideas about play to engage users and workers in repetitive or laborious tasks (Kücklich 2005). While these critical concepts were useful for signalling change, as these marginal practices concretize into common sense, hybridity implicitly harbours sociotechnical, cultural, and regulatory ambiguities. These ambiguities legitimize a range of power imbalances

in media platforms and participation: from worker misclassifications in on-demand labour to the exploitation of aspirational (Duffy 2017) and venture labour (Neff 2012). Post-Fordism normalizes hybridity, thereby instituting ambiguity as an abstract state of potentiality that is embodied by individuals as anxiety, precarity, and ambivalence.

Instead of hybridity, what is needed is what Christena E. Nippert-Eng (2008) calls boundary work, which attends to the discursive and material work of defending, bridging, subverting, and transforming symbolic divisions. In her qualitative study, boundary work describes efforts to mentally, practically, and spatially demarcate and relate work and home in people's lives. The boundary framework (Lamont and Molnár 2002) is instructive for understanding different interacting systems for meaning-making, value circulation, and identity formation under post-Fordism. Rather than hybrid neologisms, conceptual precision is needed for understanding the boundary work people are performing every day to make ends meet while making sense of it all.

One example of such conceptual clarity is sociologist Alison Gerber's (2020) gravitational model for creative industry work. Using the metaphor of planetary movement in a solar system, Gerber provides an alternative to models of polarity and binarism that oppose passion and profit in creative industry work as mutually exclusive. Based on interviews with creative workers, the gravity model highlights bodies that are not suspended between stable oppositions, but orbit according to forces that are relational, contingent, and historically specific. Removing the conceptual architecture that forces ideal types into dichotomies is a step away from compensatory and sacrificial thinking that justifies precarity as a trade-off for passionate work (McRobbie 2016; Ross 2000) and that vindicates wages and recreation as recompense for paid work. In other words, it is a step towards dismantling the work ethic by morally decoupling work from the right of sustenance and leisure. This decoupling of work from leisure can create a clearing for the realignment of moral values away from the individualizing discourse of the work ethic and towards civic concerns of Arendtian action.

In defining the human condition, political theorist Hannah Arendt (1987) elevates action above labour and work. Labour encompasses human activity that sustains biological processes of nourishment, consumption, and reproduction; work designates human efforts towards built objects and environments, which have a certain durability in the world. Action is constituted by words and deeds that disclose who one is as a person and set intersubjective change in motion within communities, publics,

and political institutions. All along the diffuse circuits of game making, Ned and others like him that I interviewed assert and express themselves, build communities, engage in publics, and enact politics in the co-creation of games. This conception of action draws from civic humanism: the idea that the exercise of virtue in the public realm is an end in itself, and not simply a means to an end. Leisure-based game making does not simply compensate for the lack of progression in paid work, it can be understood and experienced as a practice in its own right that sets intersubjective change in motion in consumer as well as broader publics. Arendt (2019, 176–77) states that 'through action, we insert ourselves into the human world, confirming and taking upon ourselves the naked fact of our original physical appearance in the world.'

Post-work proposals about basic income are largely compatible with this Arendtian framing of action. Aronowitz and DiFazio (2010), for example, state that basic income gives people time usually occupied for wage labour to wield their political power towards civic, community, and cultural concerns. Historians Edward Skidelsky and Robert Skidelsky (2012) use this framing of action to designate leisure as an activity done for its own sake, not as a means to something else, such as recuperation for work. As production scholarship has emphasized (Gauntlett 2013; Keogh 2019a; 2019b; Young 2018), informal game and media making are *largely* activities done for their own sake, to express oneself, to communicate one's politics, and to connect with others; even though game making is often framed and experienced through the politics of passionate work and aspirational labour, it is not exclusively a means of or towards livelihood in the formal game industry. Accordingly, cultural, social, or civic pursuits like game making – regardless of whether they are remunerated – could be considered leisure. This delineation of leisure in relation to Arendtian action, regardless of monetary recompense, is key to disrupting the work ethic's compensatory morality, thereby contributing towards the legitimization of basic income. This is because it realigns the dialectic of work and leisure and moves towards decoupling paid work from a person's prerogative of sustenance and their imperative of political participation.

Conclusion: The Normative Ends of Leisure

These conceptual shifts about the dialectics of leisure are vital to accelerationist plans of toppling the dominance of the work ethic through workplace organizing and campaigning. As a form of productive leisure that scaffolds the digital

age, understanding everyday practices of game making can help us navigate the economic instabilities and moral obduracies of post-work. Like other forms of serious leisure organizations, people in gaming collectives weave their play and creative practices around gaming into a narrative of self, which becomes the social fabric of their lives. This trajectory of avocational progression and the social structure within which it is performed have a temporal continuity and resilience that is increasingly absent from New Economy employment.

Transforming attitudes towards the compensatory morality of leisure in game making at an everyday level through slogans, memes, and chants can reverberate through other creative industries in the medium term and contribute to institutional change in the organization and valuation of productivity in the longer term. Christopher Lasch (1967) suggests that instead of overthrowing the work ethic, the political Left should invest it with new meaning. Half a century later, in an age of unprecedented cognitive automation, the task of investing the work ethic with new meaning must continue, away from economic circuits between things and towards civic relations between people.

This chapter proposed that game production can provide an avenue for self-realization once obtained through paid work by relying less on notions of individual productivity and more on ideals of Arendtian action. Synthesizing research on post-work, creative industries, and game production, I suggest that the institutionalization of diverse circuits of game production may facilitate the decoupling of the moral and compensatory link between work and leisure. Recognizing the value of this decoupling in other cultural industries can be a step in reinvesting the work ethic with new meaning, towards a future of work that is oriented around civic rather than productive relations. Snape et al. (2017) maintain that reorienting leisure away from its secondary, moderating function of priming the working class for the rhythms of industrial work, and towards human flourishing and social wellbeing is a utopian vision. However, they affirm that articulation of new constructs and imagined communities is needed for theorizing work and leisure for a changed world. Gesturing towards this utopian potential, Rojek (2009) emphasizes that leisure is inherently paradoxical. On the one hand, leisure is the primary normative institution in society, reproducing structural conditions of community, race, ethnicity, and nation. On the other hand, leisure is organized around some degree of freedom and free time, allowing individuals and groups to engage in actions and explore social relations that resist, challenge, and transcend normative structure. Game making as productive forms of leisure is well placed to direct such freedoms towards transformed meanings of self and structures of work.

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3. Should I Stay or Should I Go? The Circulations and Biographies of French Game Workers in a 'Global Games' Era

Hovig Ter Minassian & Vinciane Zabban

Abstract
The video game industry has experienced profound socio-technical changes during the last decade: a significant demographic growth, production of games as service, democratization of game design know-how and tools, and extended access to globalized markets due to dematerialization of distribution networks. Based on a large ongoing survey, including 40 in-depth interviews, our chapter discusses the current situation of video game production in France. A narrow labour market is here combined with a very high turnover, probably due to early career exits, and with a paradoxically overwhelming training offer. By looking at career trajectories, our biographical approach explores the circulation of game workers in the intertwining of local and global, national and international, mainstream and indie game production worlds.

Keywords: game industry, career trajectories, France, worker biographies, labour market, game development

> When you are passionate, you don't really work, you don't actually force yourself to study, you don't force yourself to work. It's all a little bit of play, it's a little bit of discovery, it's a little bit of fun (Tristan, male, 21 years old, student in video game production).

Various professional and academic actors have recently shed light on important issues concerning the organization of video game production. The precariousness of working conditions and remuneration has been

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particularly highlighted (Johnson 2013; De Peuter and Cohen 2015; De Peuter and Young 2019). In the video game industry, workers appear to earn lower income than they could obtain in other sectors with the same level of education and skills. Moreover, jobs in this sector are demanding in terms of time and personal investment, sometimes abusively. Candidates for these occupations are aware that they are engaged in a 'labour of love'. To cope with this, like Tristan, they mainly underline the dimensions that they perceive as positive in their choice. While these facts are now fairly well known, the analysis of the factors and extent of this precariousness remains limited. On the one hand, the perimeter of the industry is very blurred: what exactly does the expression 'game worker' cover? On the other hand, studies on these issues often focus on specific situations, and only provide static snapshots at a given time. What are the paths of individuals who, in full knowledge of the facts, choose to engage in it? Under what conditions do they manage to maintain their passionate commitment and how do they cope with the contingent dimension of their jobs?

We set our analysis in the context of the profound socio-technical and socio-economic changes experienced by the video game industry during the last decade. Among them: a significant demographic growth; production of games as a service; democratization of game design know-how; availability of cheaper and user-friendly creative tools (Nicoll and Keogh 2019); and extended access to globalized markets due to dematerialization of distribution networks (Kerr 2017). At the same time, technical and artistic knowledge of game design has been formalized and broadly disseminated, even at the margins of the industry. All these changes have led to an industry that, although increasingly global (Kerr 2017), is simultaneously diversifying and developing a strong network of local resources and specific ecosystems (Jørgensen, Sandqvist, and Sotamaa 2017; Kerr and Cawley 2012; Lusso 2017; Paris and Lê 2016), including localized indie scenes of production (Banks and Cunningham 2016; Parker and Jenson 2017). Introducing a temporal and biographical perspective gives a better understanding of the dynamics and modalities of precariousness in this changing field. The sociology of art and artistic careers (Menger 1999; White 1993) carried out analysis of production worlds whose working conditions, labour markets, and career paths show similarities with the situation that is currently observed in the video game industry. The work of Pierre-Michel Menger highlighted the trend, which began in the 1980s, towards the growth of people working in the creative and artistic field, as well as towards the expansion of contingent jobs and self-employment. He pointed out that these developments were

intrinsically linked to the project-based organization of these sectors. Work contingency responds to a logic that comes both from employers, who seek to support this project-based approach, and from employees. The latter value the uncertain and non-routine nature of their professional activity, in a context where *talent* can only be revealed in practice. Finally, Menger's research highlighted the strategies that are deployed both at an individual and collective level, in order to deal with precariousness. But since video game productions are not considered in France as artistic ones, game workers do not benefit from the intermittent unemployment system, which is designed to compensate for the intrinsic precariousness of the cultural industries. The comparison should also be balanced against the fact that video game production is distinguished from artistic production by its strong anchoring in software industries: there, the organization of work and employment is different, usually more accountable, profitable, and stable. Its hybrid position makes the video game sector in France a particularly interesting space to observe regarding the contemporary evolution of careers and relationship to working conditions, beyond the mere observation of precariousness.

Our analysis is grounded in a large qualitative survey conducted with French video game actors, which seeks to understand this industry without limiting it a priori to a particular production perimeter.[1] The survey includes 40 in-depth biographical and thematic interviews with French video game professionals of diverse specializations, working in mainstream or indie studios. For ethical reasons, the names of our respondents are anonymized. We also interviewed students and public and collective stakeholders (trade unions, local clusters). In this regard, we go beyond static snapshots of the video game industry, which are usually supported by demographics. The French video game milieu is a small world, and our biographical interviews highlight the circulation dynamics within it. We argue that, in the context of a narrow labour market, professional but also geographical mobility are valuable resources for game workers. Biographical accounts show that mobility is used to improve working conditions, to reconcile professional constraints and personal aspirations, or merely find an occupation whose content or level of responsibility is more convenient.

1 TETRIS: Territories and professional trajectories in the French video game industries, is a research project funded by ICCA LabEx (Cultural Industries, Artistic Creation, digital Technology). Main contributors of the project are Vinciane Zabban, Hovig Ter Minassian, Vincent Berry, Manuel Boutet, Aura Parmentier, Samuel Coavoux, Samuel Rufat, Thomas Guignard.

Welcome to the Jungle: Video Game Production in France

In France, the video game industry is frequently presented as one of the fastest growing and most dynamic sectors of the cultural industries, with a total turnover of around €4.9 billion in 2018, representing a fifteen per cent growth compared to 2017 (SELL 2019). Beyond this, available data show a more nuanced picture and reveal an industry with disparate actors and significant situational differences. Its core is composed of a few key players like Ubisoft, with more than 13,000 employees and 25 studios worldwide. In addition, there are a handful of middle- (>50 employees) and small-sized (10–50 employees) companies with international audiences. But the largest part of the video game industry in France is made up of a multitude of very small (<10 employees) and independent, self-employed creators (microenterprise), the exact number of which is not easy to determine. This industry also tends to develop in all areas and to extend into many related sectors (e.g. software, web, animation, education). This diversity of activities makes the range of the industry difficult to define, and leads to reductive findings based on data that often only take the core into account (e.g. AAA production).

What We Know about the French Video Game Production and Job Market

The actors in the sector communicate little about the volume of jobs, which is, arguably, difficult to evaluate and, moreover, may not be high enough to be recorded by public authorities. The volume of employment differs from one source to another and depending on whether direct or indirect employment is included. The most recent estimate claims 3000 direct jobs (Kerr 2017). This is a relatively modest number if compared to the 2700 jobs estimated in Finland, a country with a population twelve times smaller (Kerr 2017), or to the 10,000 jobs estimated in the province of Quebec alone (TECHNOCompétences 2016).

Pierre-Jean Benghozi and Philippe Chantepie (2017) estimate around 1000 video game companies in France, a number confirmed by the annual survey of the trade association SNJV (Syndicat National du Jeu vidéo) in 2018. Most of these companies are concentrated in large cities. 93 per cent consider themselves to be 'indie studios' and the average number of employees in French studios with fewer than 100 employees is 9.5. Reports underline the high distribution of employment in small and very small companies in

the French case. These indicators probably underestimate the number of structures and professionals involved in the French video game industry. Data on self-employed entrepreneurs and very small firms is difficult to obtain. Lastly, while a large number of new companies is announced each year, their total number remains relatively stable. A substantial proportion of these 'new' jobs undoubtedly absorbs the job losses linked to the bankruptcies of previous studios.

The 'Oversupply of Designers', Knocking on Heaven's Door?

The total volume of available jobs seems relatively low compared to the number of potential applicants, who graduate each year from French training schools specialized in video game jobs. To date, the directory of the French Video Game Agency (AFJV) lists between 40 and 50 training programmes in France. Some of them are entirely dedicated to specialized professions (game design, level design, producer, and manager). As Aphra Kerr (2017) points out, the massive arrival of these trained students in the labour market affects the demography of the sector. It sometimes drags down employment conditions by creating fierce competition between young graduates. This growth in the educational offer is noted by Menger (1999) as a characteristic of the artistic and cultural labour market evolution, and has been observed historically in different sectors. Paradoxically, the growth of game design training programmes occurs at the same time as the success or suitability of candidates for these jobs is not necessarily determined by the training background of these professionals. Thus, the growth in the number of educational programmes does not systematically secure access to the job market but tends to reinforce the creation of an 'oversupply' of game workers. That said, the role of educational structures is quite ambivalent because they also act as places where professional networks are built. Moreover, in a context of precariousness and uncertainty, teaching can be a resource and an income opportunity for some video game professionals.

Collective Responses to the Sector's Fragility

Video game production is often described as an environment of passionate, creative people, primarily composed of young men. Their passionate relationship with game creation apparently makes them ready to accept lower wages than in other sectors with the same level of skill, very long

working days, and, to a lesser extent, forms of labour relations that are either abusive or illegal. The scandals in 2017 related to cases of harassment at work and unregulated overtime accumulation in several French studios received national media coverage and led to the creation of the first formal game workers' union: the Syndicat des Travailleurs du Jeu Vidéo (STJV).

The current trends, and in particular the growth and extension of the graduate population, go hand in hand with the creation of 'communities' or 'networks of practice' (Lave and Wenger 1991; Wenger 2008), which emerge and link individuals through a dense network of knowledge, creation, information and communication tools. They provide both local and remote support. These networks include professionals working in different fields, but also a wide spectrum of actors who are more or less involved in the industry, from a young graduate looking for her first job to an amateur designer who may prefer to remain a peripheral participant. Arno (male, 29 years old, programmer in a large company in Paris), for instance, participates in a dedicated game creation group:

> The Alt-Control group, to which I belong, is grouped around Slack. The rule to be able to enter this group is: you work or you have worked on an Alt-Control project, or you do artistic programming [...] I think that good developers, good designers, good artists are people who are curious, they go to meet-ups and they are able to go out of their comfort zone [...] Also, those who don't do that, within a certain time they just merely leave the industry, naturally.

By decoupling the practices of professionals and their social anchorage from the industrial and professional structures in studios, these networks of practice supposedly encourage the development of critical thought and various forms of mobilization against precariousness, inequality, and exclusion. Moreover, this professional sociability is a crucial resource for game workers, who often have to build their careers by navigating between different professional spaces.

Many young and passionate game workers are willing to accept difficult conditions, but there are some limitations to this: they will not do it at any cost. Consequently, after a few years spent in the industry, or as a result of a major turning point in their personal life (marriage, birth of their first child), many professionals leave to find a job in another sector with higher wages or better work environment. This results in a significant turnover while indicating that people tire quickly of working conditions unless they

see a route to better positions. Mobility, either professional or geographical, then functions as a resource.

Mobility as a Characteristic of the Sector

Careers in video game production require a strong personal investment in the activity, professional sociability (as shown by Robin S. Johnson (2013)), as well as a willingness to be mobile. To document how game workers cope with these issues, we conducted 31 in-depth biographical interviews with French game professionals within various kinds of structures and with diverse specializations (see Annex 1). Five of them are women, four are students in video game training programmes, and nine are living and working in Montreal (Canada). During the interviews, we invited them to talk about their training and their professional and personal background. Here, we focus on the *turning points*, which are, according to Andrew Abbott, 'more consequential than trajectories because they give rise to changes in the overall direction or regime, and do so in determining fashion' (2001, p. 249), in order to be able to characterize the dominant types of mobility within these biographies. We identified four distinct turning points: going elsewhere; going foreign; going indie; and getting out.

Going Elsewhere

The first and most common form of mobility is a change of employer. Within a project-driven model of production, this equates to starting a new sequence in one's professional trajectory. But in the French game production sector – unlike many artistic and cultural fields – where the dominant model remains wage-earning and permanent contracts, it often constitutes a turning point. Entering a new company sometimes means moving to a new town. It is often one of the few options to get a promotion, an improved salary, and a chance to gain responsibility or change specialization.

Sofia (Sofia, female, 32 years old, video game producer), for example, had been working in a medium-sized company in the metropolitan area of Paris as a graphic designer for several years when she realized that she would not succeed in getting promoted to her desired position of project manager:

> I felt like I had the ability to do that, but… But I was not empowered to do so. My boss said to me: 'Yeah, project manager! OK. Great, I promise you,

> it's gonna be the next move', and so on. And at the end of the following production, I was offered a position of… UI Artist. And then I said: 'Actually guys, it's not going to happen' […] Because, well, making graphics is cool, but there are people who are much more talented than me at this. And I actually said to myself: okay, I'm going to do something that I'm good at, and where people can't compete with me.

She left the company while she was expecting a baby and spent two years not working. She then decided to apply for a position in another company and was hired as associate producer. At the time of the interview, she had just resigned from this job to take a position in another company whose management was a better fit and which offered her a better salary.

Going Foreign

Professional and geographic mobility sometimes implies the internationalization of trajectories, especially for those looking to work on AAA games.

> I was still in school and wondering what job to do afterwards, it was pretty obvious at that time… I think the thought process was: I want to work in video games. What company? Well, I don't know. Let's look at the French studios. Ok, what's the biggest? Ubisoft, OK. What's the best place in Ubisoft? Montreal. (Tonny, male, 32 years old, works in an AAA studio in Montreal)

Working for a major publisher or in AAA production gives rise to contrasting discourses. For some respondents, it is repellent, synonymous with anonymity and frustration: 'it's the idea of one guy, with the decision of one another guy… It creates a lot of frustration' (Basile, male, 33 years old, now independent). It is sometimes associated with the drying up of ideas and a lack of creativity. For others, it is the price to pay to 'reach ten million players' (Tonny). For those on a professional career path, this type of international experience is particularly valuable. For some, this means being ready to work abroad, where it is sometimes easier to be recruited at the beginning of their career than in France. Quebec is often a preferred destination, because of the strong presence of French studios and its linguistic proximity. Conversely, it is hard to estimate how many foreign game workers come to France to find a job in the video game industry. Because of the oversupply of

workforce here, one can assume that France is not identified as a privileged destination, but this would require further investigation.

Our interviews with French expatriates in Montreal underline that the perceived benefits of this relocation are varied. For Tonny, who has been living in Montreal for seven years, the city offers a better quality of life than Paris: wages are higher and life is cheaper, housing is larger and more accessible. The benefit is not only economic, but also social: the importance of the video game industry in the city contributes to the valorization and self-esteem of these professionals, as it does for other artistic and intellectual professions. Being accepted by your social surroundings is highly valued by our respondents, who have often had to defend this career choice in France. However, not all travel paths are linked solely to the job they are seeking, personal reasons (fleeing the stressful life in Paris) or marital reasons (following a partner or, the opposite, changing cities after a break-up) also play a role.

Going Indie

When geographical mobility is not directly envisaged, professional integration and the desire to improve working conditions or to carry out one's project can be achieved through self-employment. Together with the growth of the training offer, changes in the production and distribution methods and tools are factors that undoubtedly explain the development of the independent sphere in France. To create an indie studio may thus appear to be an answer to a narrow market job. Encouraging future professionals to create their own studio can be a way to challenge this evolution, as a manager of a video game cluster in the West of France told us. Besides, the most attractive schools promote alternate career paths. They appreciate applicants with an artistic background, or at least a strong cultural background. They release into the market educated professionals, trained for game design, who are able to make their own game within small teams or to manage working teams. Claire (female, 32 years old, lives and works in the suburbs of Paris), a game designer who created an indie studio after several years at Ubisoft explained: 'ENJMIN trained us for that [...] They will not state officially that "we are a school that trains independents and people who experiment" but that is part of the school's philosophy.' However, Claire did make a first career step in mainstream production, like Julien (male, 27 years old, works with Claire), and this

has proven to be an important resource for them when creating their own business together.

Getting out

By definition, these are the most difficult career paths to measure. The reasons for leaving the video game industry can be very diverse (working conditions, low wages, tiredness, personal or familial projects, etc.). We also know less about these cases, even if we can make an assumption about two situations: diversification of activities and professional reorientation.

The survival of small businesses depends a lot on diversification of activities. In independent studios, video games are often not the primary source of revenue. Jérôme's company (male, 37 years old, independent, Tours) generates additional income from graphic services that his wife, also an employee of his own studio, performs for a mass retail group. This is not an isolated case. Thierry (male, 36 years old, running a very small company in Metz), also offers technical services. This is the case in many companies hosted by professional associations, according to their managers. This diversification can also be seen through the search for and mobilization of local resources. Responding to calls for tenders from local institutions, developing ad hoc gaming services for regional businesses can prove to be an efficient economic strategy.

One of the most difficult phenomena to document is the potential extent of a career change. How to cover the trajectories of workers who end up leaving the video game industry permanently, without necessarily moving away from computer science or creative productions? This is the case with Malik (male, 43 years old, works in Paris and lives in the suburbs). After ten years of experience in the industry, he finally left the last video game studio in which he had worked for four years, to join a computer company working on artificial intelligence. Low salary levels in the video game industry and family constraints were important arguments for leaving the industry:

> Over four years I saw the rents going up, the price of food going up, and then my salary, which remained unchanged. I didn't feel like I was making any progress in life. It was tough. And actually, after a while I got sick of it. After four years of expecting an increase, you start to give up, to lose self-confidence [...] I knew friends who had gone to software firms, or my

> brother in-law who worked in a finance firm, that kind of stuff [...] and I saw that they were making twice or triple what I earned, it drove me crazy.

Of course, this categorization of professional mobility within and outside the sector is necessarily reductive, particularly because documented biographical backgrounds sometimes mix these different types. However, the main utility of this typology is to underline both the plurality of professional careers in the video game industry and the way in which actors respond to the precariousness of the sector. Ultimately, mobility is a resource, sometimes used out of necessity, for instance when a company shuts down or when the negotiations for a better salary or a better job have failed.

Dynamics of Circulation within the Video Game Industry

The professional mobility observed in the analysed career paths highlights the porosity and circulation between the different categories of production (independent, mainstream, globalized, local, etc.). Firstly, it is necessary to underline the non-linearity and non-binary reality of most professional trajectories. Transitions, from one sector to another and from one territory to another, make it possible to build a career in the video game industry. This is the situation for Basile, who made many moves during his early career: he grew up in Lyon (France) and began his career path working for Blizzard in Dublin, Ireland. He then returned to France and began a specialized training in Cannes, on the French Riviera. From there, he went to Barcelona in Spain to work in a middle-sized studio. He liked his job but feared the company would shut down. A large French company finally bought it. Considering himself underpaid, he soon left the studio and obtained a position in a Parisian team. This also suited him because his girlfriend lived in France. He stayed in Paris for a while, where the work was less interesting than in Barcelona: he had fewer responsibilities. He decided to resign and join his girlfriend in Lyon where he worked in a middle-size company, but he was not interested in their projects, and experienced what he called a 'bore-out'. He then tried to set up his own company both to gain autonomy and to be able to stay in Lyon: when we met him, he was about to become a father.

In the analysed career profiles, large international studios and small local studios are not separate, but come together in hybrid situations, which may arise as a result of luck as much as they do to strategic choices. Consequently, the presence of both a mainstream and an indie scene

have reciprocal positive effects. Transfers, circulation, interfaces, exist from one to another and, from this perspective, they seem complementary rather than contrasting working fields, thanks to the porosity of the boundaries between the 'upperground' and the underground (Grandadam, Cohendet, and Simon 2013). Indie projects (even as a side project), as well as participation in game jams (Pirker, Khosmood, and Gütl 2017), contribute to professional socialization and knowledge acquisition outside the firm, and may also provide a symbolic reward. These projects can thus represent a valuable investment for mainstream game workers' careers.

Schools, too, seem to favour these diverse career projections. Training centres have strong relationships with both the mainstream and indie game worlds. A large number of courses are provided by professionals, who thus contribute to externalizing and formalizing knowledge and know-how that previously circulated primarily within companies (e.g. Ubisoft's *rational game design* methodology). Video game schools also contribute to game jam dynamics, as organizers or through the participation of their students. At the margins of the industry but with a strong symbolic recognition, game jam productions may lead to indie production and sometimes constitute a first step in career paths, as has been the case for Boris (male, 30 years old, narrative designer in a large-size company in Montreal). Feeding the portfolio of young job applicants appears essential in a market where achievements and projects are a priority. Similarly to the film industry, the indie sphere and its institutions may provide ways of acquiring experience after graduation and thus entrance to a selective job market.

Of course, French game workers in France are not all exposed to the same precarious working conditions. There are also success stories, like Fabien (male, 34 years old, Paris) and his very small French studio that was lucky enough to be spotted by a California-based editor, who financed them with several hundred thousand euros. With two collaborators, Fabien took advantage of unemployment compensation to start his project, a beat 'em up game in the retrogaming mode. After promoting it on social media networks (following the advice of an ex-marketing colleague), they drew the attention of one of the top American independent game publishers, which agreed to fund and promote the project. Nonetheless, the longevity of the activity and the resources available to achieve it are crucial issues, particularly for the 'indies'. As Jennifer R. Whitson, Felan Parker, and Bart Simon (2018) point out, game workers want to have a sustainable career; in other words, they want, above all, to be able to live

from their job. This certainly takes priority over international recognition and worldwide commercial success. This observation seems to be unanimous among the actors of the video game clusters we interviewed in France.

To achieve sustainability, professionals combine local and global investments: besides their contribution to a global market through online platforms, they also develop strategies within local areas. To stand out from the crowd, it is essential to be able to play simultaneously on a local and global level and to participate in middle-ground dynamics (Mehouachi et al. 2016). Regarding the local level, our interviews with successful and sustainable 'indies' revealed the importance of their professional social network, providing particular but essential material and informational resources (e.g. devices for testing, sound design, marketing advice). They also highlighted the crucial role played by intermediaries in terms of financial and promotional support, specifically, small publishers and alternative forms of funding, festivals, contests (and game jams) and innovative local programmes (clusters, specialized workplaces). But they also play at a global level, and emphasized the importance of promotional policies and assessment tools. Others underlined the strong effect that different kinds of socio-technical marketing devices have. For many of our respondents, local anchoring is a well-considered choice, seen as a valid alternative to the race for international competitiveness. It also means that the actors we met do not necessarily think about their activities in terms of competition, or comparative advantages, but rather see the presence of other actors of the same nature as a local resource.

Conclusion

Our interviews confirm the importance of different forms of mobility (geographical, intra-, and extra-sectoral) and the ability to navigate between different scales for professionals in order to stay in the sector and reach sustainability. The careers of our respondents do not appear as predefined professional trajectories with clearly identified perspectives, but rather as a series of commitments and turning points (Becker and Strauss 1956), depending on professional and personal opportunities.

Our respondents, most of whom are probably sufficiently integrated, must therefore experiment and constantly adjust to find a satisfactory career situation. Similarly to artistic careers, risk management in video game careers requires multiple strategies, based on both individual and

collective logic. Support may come from private or public sources, they can also rely on cooperative-like association, 'by designing a sort of mutual insurance scheme,' (Menger 1999, 562) or, most commonly, professionals can hold multiple jobs. The close proximity to the software sector is an important resource here, especially for certain occupations. In this respect, the video game industry is perhaps more hybrid than other fields of cultural production.

Our interviews highlight the vocational relationships to the profession. Workers are neither naïve, nor irrational about the working conditions that the sector imposes on them. Those like Tristan, who is still a student, are willing to accept a lower salary and a high investment requirement, but, as their stories reveal, this is only true to a certain extent. The acceptable measures may vary according to specializations and career advancement: working alongside an independent project, or within creative collectives may be part of it. For one of our respondents, Arno, it is even an issue of sustainability: 'those who do not do it, they do not stay in the business.' We also see, as in the case of Malik, that this logic may no longer work in the medium term.

These personal stories portray an industry in which career paths are largely concerned with competition in the job market. Arguably, most of these careers are short. And there are likely to be strong variations according to job specializations and activities. On the one hand, some technical skills, more or less sought or scarce, can be a guarantee and ensure longevity in the sector; on the other hand, they are sensitive to technological changes within the industry. Jobs in artistic, design, or graphic domains, for their part, seem to be more precarious, with lower wages than those linked to programming. Front office occupations, like community manager, have been highlighted as a particularly precarious occupation (Kerr and Kelleher 2015). The situation of support staff (marketing, human resources, etc.) is even less documented.

We can hypothesize that, for many actors, working in video game production is simply a stage, during which they can acquire skills valuable in other sectors, but what about the precariousness of the most artistic and specialized workers? Moreover, alongside the consequences of working conditions and socialization on the lack of diversity in the sector (Johnson 2013), the poor capacity of the milieu to retain its seniors and their valuable experience continues to be an issue among video game professionals.

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Annex 3.1: Table of biographical interviews

Pseudonym	Place	Employment Profile	Age	Specialization
Fabrice	Paris	Student	27	
Tristan	Paris	Student	21	
Emilie	Paris	Student	20	
Lionel	Paris	Student	37	
Sofia	Paris	Middle-size company	32	Producer
Théo	Paris	Public institution	31	Game Designer
Marc	Paris	Middle-size company	29	Game Designer
Fabien	Paris	Business Owner Very small-size company	34	Game Designer
Claire	Paris	Business Owner Very small-size company	32	Game Designer
Julien	Paris	Business Owner Very small-size company	27	Programmer
Arno	Paris	Large-size company	29	Programmer
Malik	Paris	Small-size company	40	AI Programmer
Jerome	Tours	Business Owner Very small-size company	38	Programmer
Basile	Nice	Business Owner Very small-size company	33	Producer
Thierry	Metz	Business Owner Very small-size company	37	Programmer
Max	Lyon	Middle-size company	39	AI Programmer
Henri	Lyon	Middle-size company	34	Game Designer
Yves	Lyon	Middle-size company	30	Programmer
François	Lyon	Middle-size company	29	Programmer
Paul	Lyon	Business Owner Small-size company	37	Business Manager
Thibault	Toulouse	Business Owner Microenterprise	26	Marketing, CM
Mathieu	Toulouse	Microenterprise	40	UI Designer
Greg	Montréal	Large-size company	35	Producer
Brice	Montréal	Large-size company	30	Level Designer
Boris	Montréal	Large-size company	30	Narrative Designer
Yannick	Montreal	Microenterprise	40	Artiste 3D
Cecile	Montreal	Large-size company	34	Level Designer
Olivia	Montreal	Very small-size company	27	Narrative designer
Tonny	Montréal	Large-size company	32	Gameplay Programmer
Stephane	Montréal	Very small-size company	36	Level Designer
Jean	Montreal	Business Owner Very small-size company	31	Game Designer

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4. Intermediating the Everyday: Indie Game Development and the Labour of Co-Working Spaces

Pierson Browne & Brian R. Schram

Abstract
Emblematic of major cultural and economic shifts towards 'new work,' indie game development has positioned itself at the forefront of market innovation by subverting traditional, hierarchical models of workplace organization. At the centre of these major shifts is the figure of the 'cultural intermediary' – a nebulous, ill-defined role which we, nonetheless, contend is integral to understanding cultural industries. By focusing on the mercurial forms of labour performed by founders and directors of indie co-working spaces, this chapter aims to give shape and dimension to the role of cultural intermediaries, arguing that their networked mobility and delamination from traditional 'sites' of work necessitates a rethinking of studio-based study as the standard for examining indie cultural production.

Keywords: cultural intermediary, indie game development, workplace organization, co-working spaces, emotional labour, new work

As workplace organization, communications technologies, and the nature of what constitutes work, labour, and a product shift in response to evolving market forces, developers working in creative industries increasingly interface with a new category of employee unencumbered by rigid hierarchies, niche roles, or geographical location and capable of traversing a diverse array of duties and responsibilities. Since its emergence as a recognizable form of development practice, independent game developers have been at the forefront of these ongoing reconfigurations of work and labour; at the centre of these flexible new models of production is a new category

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of worker, hereafter referred to as the 'cultural intermediary'. Cultural intermediaries – in their many forms and instantiations – have become an inextricable aspect of indie game development scenes across the globe. Cultural intermediaries serve as streamers, reviewers, and commentators; they produce and sustain exhibitions, game jams, meet-ups, support circles, and investment initiatives, to name but a few (Whitson, Simon, and Parker 2018). Indie development no longer transpires solely – or even predominantly – in anything resembling a traditionally defined 'place of work'. As the organization of work in indie development circles continues to change, the objects indie game scholars examine must also adjust: in order to make larger contributions, scholars must explore the actors and organizations – such as the founders and directors of co-working spaces – who populate the broader ecosystems within which cultural production occurs.

The concept of the cultural intermediary – first proposed by Pierre Bourdieu (1984) – has outgrown its original purpose as a term for 'workers involved in the provision of symbolic goods and services' (Nixon and Gay 2002, 496) and has come to encompass a wide variety of tastemakers, influencers, and facilitators, whose labour shapes and informs cultural production (Maguire and Matthews 2012). Cultural intermediaries work with and adjacent to cultural labourers, and are indispensable to cultural production, but do not (at least in their capacity as intermediaries) engage in creative labour themselves. The proliferation and imbrication of cultural intermediaries in and across many disparate indie development business models is not due solely to the flexibility and relative adaptability of the position. Indeed, it is also due to their ability to interface and exert influence both vertically and laterally inside their own spheres and with adjacent organizations, external tastemakers, product consumers, and content producers. Cultural intermediaries, in short, bridge the schisms between indie scenes, larger cultural circuits, corporate circles, and potential sources of funding or support. These far-reaching, decentralized networks of market-making and cultural capital accumulation provide valuable, immediately monetizable relationships, which come packaged alongside a form of industry and consumer credibility not easily captured by larger mainstream corporate organizations.

Drawing on our previous work, in which we sought to outline and elaborate on the role cultural intermediaries play in indie game development (Perks et al. 2019), we interpret their mercurial position of 'precarity, [their performance of] extensive and largely invisible behind-the-scenes work, [their forging of] complex networks of interdependence and support, [and the] blurred boundaries [they must maintain] between the personal and

the professional' (Ibid., 2) as indicative of broader shifts in the organization and operation of small-to-medium-sized creative enterprises. Due to the centrality of cultural intermediaries in the function and form of emerging creative industries, we propose broadening the lens of studio studies to include an increased focus on these external, interstitial actors in order to form a more complete picture of the independent game development ecosystem.

In this chapter, we argue that directors of indie-focused co-working spaces (see De Peuter, Cohen, and Saraco 2017) act as cultural intermediaries, whose role in development practices extends beyond the simple provision of desk space, implicitly subsuming labours related to mentorship, business development, networking, maintenance, brokerage, and emotional upkeep. To do so, we begin by situating the emergence of cultural intermediaries in the indiesphere as a product of indie developers' ongoing negotiations of risk and uncertainty in an overcrowded market. From there, we briefly detail the 2017 Indie Interfaces Symposium and our methodological approach to its study. Our final section uses data and insights gleaned from the symposium to explore the mercurial, liminal forms of labour performed by those responsible for indie co-working spaces.

The 'Indiepocalypse' and the Intermediary Turn

Rather than being separate and several from other industries, academics have singled out the game development sector as gliding along the cutting edge of new trends in labour relations and practices. Casey O'Donnell, by way of introducing his game development studio ethnography, *Developer's Dilemma*, writes:

> I want to make the creative collaborative work of my informants more visible because what every game developer does every day can inform so many others. [...] Their work is indicative of what labor has become in our current historical and cultural moment. (O'Donnell 2014, x)

As an ethos, aesthetic, practice, and mode of resistance, indie has come to prominence as a widely celebrated and emulated facet of the contemporary game development industry (Lipkin 2013; Ruffino 2013). Despite this, it remains difficult to rigorously define what separates indie development from other forms of game production. Maria B. Garda and Paweł Grabarczyk (2016) describe 'indie' as consisting of more than a mere abbreviation of the

'independent' moniker. To them, indie game development distinguishes itself from mainstream (or AAA) development along three axes: 1) financial independence; 2) creative independence; and 3) publisher independence. They claim that 'the term "indie" functions as a label for a specific kind of independent game which emerged around the mid-2000s,' (2016) and functions as a shorthand for referring to the use of digital distribution channels, experimental design, smaller budgets, lower unit prices, a retro style, small game scopes, smaller development teams, use of widespread middleware (such as Unity), and belonging to an indie mindset and an indie scene. The histories of indie are multiple, internationally dispersed, and critical: they run in parallel to and challenge dominant narratives about the birth of the North American mainstream games industry, and they are still being discovered and elaborated upon. The origins of indie game development can be traced back to British bedroom coding culture (Wade 2016), Czechoslovakian microcomputer DIY groups (Švelch 2018), post-commodity homebrew circles (Deeming 2013), modding communities (Sotamaa 2010), and the Scandinavian demoscene (Hansen, Nørgård, and Halskov 2014), to name but a few.

Indie as it is recognized in the contemporary moment (Garda and Grabarczyk 2016) rose to prominence as a response to the near-absolute corporate dominance and formalization of game development and distribution channels (Keogh 2019). Because access to popular home game consoles was tightly controlled by an oligarchy of console manufacturers (O'Donnell 2014), early indie developers turned to online communities such as Newgrounds (Browne 2015; Salter and Murray 2014) and TIGsource (Yu 2016) to build followings, interface with fans, iterate upon their work, and elevate their craft. These communities, predicated on close, two-way channels of communication between creators and their audiences, were indispensable to the success of the development teams featured in Lisanne Pajot and James Swirsky's 2012 documentary, *Indie Game: The Movie* (Pajot and Swirsky 2012). Team Meat's indie blockbuster *Super Meat Boy* (Team Meat 2010), for example, was built upon a prototype – *Meat Boy* (Bluebaby, dannyBstyle, and Musician 2008) – originally developed for Newgrounds.

The early indie exemplars benefitted from the novelty of their work and their near-total lack of competition for airwaves and attention. These early movers were especially venerated for the runaway success they each achieved with only one to two full-time developers and skeletal (if not non-existent) development budgets. In this way, the early indie exemplars were forerunners of a rebellious, countercultural movement that eschewed the Taylorist-Fordist (Crowley et al. 2010) practices dominant in the tightly controlled video game industry circa 2008.

Acquiring access to the tools required to create high-quality indie games is now trivial. Unity, the choice of countless professional development studios and independent creators alike, is available for free, and only begins to cost developers once they earn revenue from their released games (Nicoll and Keogh 2019); other, similar development suites have recently followed suit ("The $120B Gaming Industry Is Being Built On The Backs Of These Two Engines" 2018). Free tutorials for these engines abound on YouTube, personal blogs, and online learning platforms.

Distribution platforms, too, have opened themselves to a wide range of applicants. Whereas digital marketplaces once tightly restricted access to their platforms, Steam's Greenlight programme – launched in 2012 – dramatically reversed this trend (Eloranta 2016). Now, the small cabal of online distribution platforms – Steam, Good Old Games, Epic Games Store, and Humble Bundle, to name a few – are engaging in active competition over exclusive rights to distribute new releases, both indie and AAA alike (Kidwell 2018).

The broad (though still unequal) accessibility of professional-quality game development tools precipitated a proliferation of indie developers and indie games. This, in turn, caused panic amongst those who foresee an impending (or extant) collapse of the financial viability of indie development – a state of affairs they have termed the 'indiepocalypse' (Wawro 2016). Influential developer Ryan Clark's rebuttal to the panic over the impending glut of independent games was designed to reassure indie developers and fans alike, but in so doing, highlighted precarity as a sine qua non of all independent games development:

> When people discuss the indiepocalypse, they are likely trying to help you. They want you to make an informed career choice, and avoid financial ruin if the indiepocalypse comes to pass. This is admirable and I applaud their efforts. But to me, being an independent game developer has always been an unwise career choice. I have seen many astoundingly talented friends leave the indiesphere, and game dev [development] altogether. Talent is a requirement, not a guarantee. The rate of attrition is high. [...] It will be hard. You are insane to attempt this. But if this is really what you want to do, do not be deterred by the spectre of the indiepocalypse (Clark 2015).

In this new, terminally overcrowded marketplace, indies are often forced to manage risk by adopting a discursive hedging technique described in Gina Neff's (2012) *Venture Labor*. Indies manage risk through talk: they recast

uncertainty and the risk of failure as an opportunity to succeed where others dare not even tread (Browne 2015). As part of this hedging, indies discursively equate success with survival. Even a reasonably successful indie game is unlikely to reach the lucrative heights topped by Team Meat's *Super Meat Boy* (Team Meat 2010) or Jonathan Blow's *Braid* (Computer None 2008). Success, then, has become a matter of being financially stable enough to keep making indie games, rather than becoming independently wealthy (Browne 2015). Indies recognize that artistic or ludic merit alone is no longer a guarantor of even the limited form of success described above. Even critically acclaimed indie games can founder in ruinous obscurity if not properly marketed and featured at the forefront of the various digital marketplaces' splash pages (Stolk 2018).

In order to navigate these uncertainties – and those surrounding visibility and sustainability in particular (Whitson 2013; Parker, Whitson, and Simon 2018) – indies have had to innovate, improvise, and develop playful new ways to engage audiences and deepen relationships with stakeholders and sources of support alike (Browne 2015). In this way, indies have begun to turn to a variety of cultural intermediaries whose ability to dwell within and communicate across the interstices of game development have cemented them as indispensable parts of the indiesphere.

Jennifer R. Whitson, Felan Parker, and Bart Simon (2018) argue that game developers' focus on what they describe as a 'triad' of development roles – consisting of the artist, the programmer, and the game designer – has come at the expense of sufficient attention paid to the labour performed by producers. In a corporate development setting, producers are responsible for a variety of tasks, most of which are viewed as business-related, and therefore outside the purview of the creative triad. Despite being neglected, producers are indispensable:

> [...] the producer acts as a key interface between the 'inside' of the game development triad, and the 'outside' of the much larger global production infrastructure that includes publishing, financing, regulation, distribution, marketing, quality assurance, physical manufacturing, and community support (Whitson, Simon, and Parker 2018, 4).

Whitson, Parker, and Simon also point out the gendered dimension of these labour divides: while men tend to predominate in the creative triad roles, those filling producer or producer-adjacent roles (such as public relations and marketing) in game development studios are more likely to be women.

Indie studios – focused as they are on creative expression using small development teams (Garda and Grabarczyk 2016) – are largely unable to spare the resources necessary to sustain a full-time producer. Whitson, Parker, and Simon use their research with the Indie Megabooth to argue that, in the absence of a formal producer, cultural intermediaries take on the labour of the 'missing' producer. They can be found at almost every stage of indie games development and have become pan-industry phenomena, which occupy the interstitial spaces between other actors and facilitate collaboration, signalling, and the exchange of information. In this way, the absent producers' tasks, roles, functions, and areas of responsibility – once stripped of the arboresque corporate structure around them – are organically distributed throughout a rhizomatic network of intermediaries. Moreover, while the producer could be located inside a network wherein each individual 'node' or 'worker' is attached to a defined set of characteristics, technical specialization, and skill sets, the cultural intermediary subverts the network formation, offering not a network of defined nodes and their interrelations, but an evolving tangle of consistently shifting responsibility and positionality.

One instantiation of this intermediary turn is the widespread emergence of indie development-focused co-working spaces and the mercurial labour performed by those who manage and direct them. Greig de Peuter, Nicole S. Cohen, and Francesca Saraco describe co-working as a 'strategy for mitigating precarity' (2017, 688), made use of by individuals or small teams of professionals who are self-employed or work in the absence of traditional corporate hierarchies. Co-working spaces typically allow members to 'pay a fee to access a desk, shared office amenities, professional development events, and contacts that may lead to contracts' (Ibid.). In the following section, we detail our research activities at the 2017 Indie Interfaces Symposium, where researchers had the opportunity to learn from several founders and directors of indie co-working spaces about the work that they do.

The Indie Interfaces Symposium

The 2017 Indie Interfaces Symposium invited roughly twenty individuals identified as cultural intermediaries working with indie developers to convene in Montreal, Canada, for a two-day programme focused on articulating and apprehending the role of cultural intermediaries in independent game development. Over the course of the symposium, attendees participated in a series of scheduled paper presentations, roundtable discussions, and

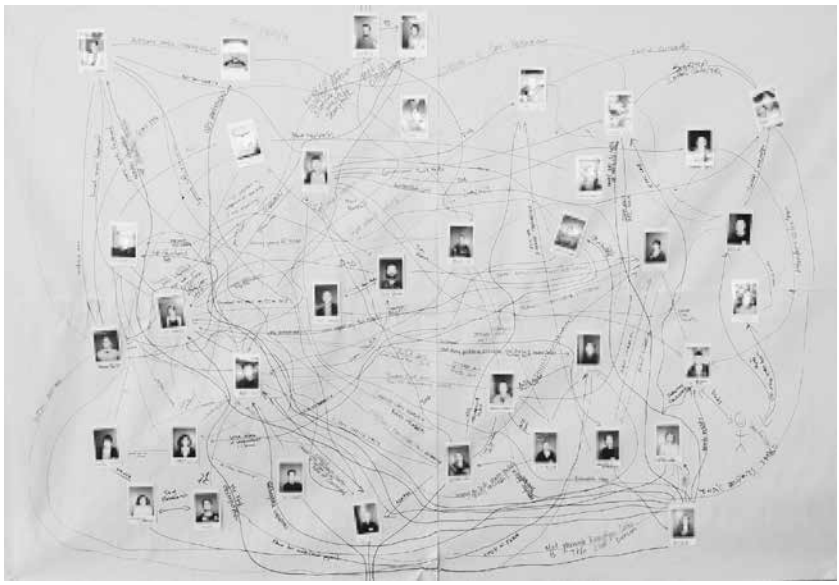

Figure 4.1: An example of the rhizomatic relationship between cultural intermediaries and their varying degrees of imbrication within the indie community. Indie Interfaces Symposium attendees were invited to affix their polaroid picture to a central document and draw connections between them and others they had previously collaborated with. Photo by a member of the research team (Jennifer R. Whitson).

workshop activities designed to facilitate knowledge sharing and highlight unrecognized commonalities between attendees' labour.

The 2017 Indie Interfaces Symposium served dual purposes: for attendees, the symposium served as an opportunity to meet and interface with other cultural intermediaries, as well as develop a mutual understanding of shared labour practices and experiences. The symposium also served as a site for data collection: a team of researchers collecting observational data was present at each of the presentations, roundtables, and workshops, as well as during interstitial periods such as coffee breaks, the pre-symposium breakfast, and after-hours events. The researchers acted as a coordinated 'swarm' (Pierce 2009), gathering data from different aspects and a variety of perspectives and approaches (for more detail on our methodology, see Browne et al. forthcoming). Where institutional ethnography may have been an appropriate means through which to assess traditional developers that adhere to the corporate model, the dynamic range and geographical instability of cultural intermediaries render them a pan-industry phenomenon and not a group of individuals easily isolated within a single organization.

The 'taskscape' workshop was held shortly after lunch on the first day of the symposium. The symposium organizers split attendees into four groups,

Figure 4.2: An Indie Interfaces Symposium attendee mulls over the tasks that comprise their average workday. Taken by a researcher during the taskscape workshop portion of the symposium. Photo by a member of the research team (Pierson Browne).

and each member of each group was instructed to use post-it notes to write out as many aspects of their daily routine as they could reasonably manage. Once finished, the post-it notes were sorted and grouped into a number of loose themes. The purpose of the exercise was to highlight commonalities across the seemingly disparate roles played by the cultural intermediaries in attendance; it also provided the researchers in attendance with a valuable source of information about the quotidian reality of performing cultural intermediation labour.

In the following section, we draw upon the data gathered in collaboration with the founders and directors of indie co-working spaces who were in attendance at the Indie Interfaces Symposium to illustrate the changing nature of the workplace and the relations sustained therein.

From the Arboresque to the Rhizomatic: The Lateralization of Workplace Organization and the Origins of 'New Work'

According to both Michel Foucault (1975) and Gilles Deleuze (1968), the history of power prior to the twentieth century was rooted in the arboresque

arrangement of authority – a time of rigid classification, institutional hierarchy, and inflexible order. As a corollary to this line of thinking, Foucault notes that all central institutions that characterize modernity – the hospital, the school, the factory, the asylum – can be seen as various articulations of the panopticon and the way it managed the flow of power and inculcated its occupants with the rules and regulations of institutional life.

To us, the corporate office building engenders this modern zeitgeist, encompassing the strict hierarchical distribution of its employees and their individual taskscapes. Each floor, like a bodily organ, is dedicated to a specific task. Indie development and, we argue, 'new work' in general, no longer takes place along the vertical axis of corporate hierarchy. Moving in tandem with the decentralization of neo-liberal governments, the indie culture industry has spread out, forming expansive networks of creative labour and forging new spaces of monetary extraction. As this trend continues, the small collectives of renegade, anti-corporate developers must, therefore, perform their tasks in a different sort of workplace and manage geographically dispersed flows of productivity, costs, and revenue in novel ways.

One of the more prominent manifestations of this novel ethos is the widespread emergence of co-working spaces dedicated to facilitating indie developers' work, providing them with space, resources, connections, marketing, mentorship, and opportunities to collaborate and share knowledge with peers. Many of the Indie Interfaces Symposium attendees were managers or creative directors of game development co-working spaces. Rather than simply acting as a space where indie studios can rent desk space, excerpts from interviews show how they envision their spaces as centres for pedagogy, networking, outreach, knowledge dissemination, and resource sharing:

> Interviewer: *What were you doing with that time?*
>
> Respondent: We would organize sessions, we sometimes had an acceleration period with six weeks of classes, we would do training sessions, we would do mentoring sessions, we would connect them with mentors in the industry, we would have all sorts of speakers coming in, all sorts of subjects.

Lacking the grid-like rigidity of corporate job descriptions and division of labour, cultural intermediaries emerge as a novel type of agile worker capable

of satisfying indie game development's general requirement to harness the potential of a small workforce in possession of a diverse array of skills:

> Interviewer: *Where is the divide between what the teams have to do for themselves when it comes to marketing, and what you do? Which part of this outreach, marketing, meeting the right people-work is theirs, and yours?*

> Respondent: So, they have to do all the work. I don't do work for them. I'll do an introduction, or I'll tell them something is happening. At that point, it's their choice of what they're going to do with that information. I won't hold their hand through the process: I put the impression in front of them. I led them to the water, they have to drink. And if they choose not to attend the event, and not to set up the meeting, not my problem. For us, it's like we're mentoring and we're teaching and we're providing opportunities, and we're putting the right people in front of them, but we don't tell them how to run their businesses. We don't own equity in any of the companies, and so, it doesn't matter what choices they make: it's not our business. The line is sort of blurry, but there is a very clear definition [...] I don't tell them how to make their game, I don't tell them how to run their business, I don't make them change what they're doing. I provide support and opportunities, and they can choose what they want from them.

Unlike the programmers and artists they work alongside and support, cultural intermediaries are left to manage an eclectic array of responsibilities filling in for the absence of dedicated producers, PR staff, advertising agents, and publicists. Citing Parker, Whitson, and Simon (2018), cultural intermediaries are:

> [first] market actors who construct value by mediating how goods (or services, practices, people) are perceived and engaged with by others such as consumers and other market actors, including other cultural intermediaries. Second, cultural intermediaries must also be defined by their expert orientation and relational position (p. 1956).

In other words, the roles cultural intermediaries play – including co-working space directors – play are largely relational and draw on a previously existing professional networks, their ability to cultivate and maintain friendships

with influential actors in the indie scene, and their status as tastemakers whose own engagement with consumer populations holds sway inside the indie game market. Despite being the sine qua non of cultural intermediation, these relational forms of labour (Baym 2018) are fraught and poorly understood, even by practitioners:

> Respondent: I think the first thing that I really appreciated was that from the first talk that [a fellow attendee] gave, that there were shared problems, and talking with other co-working spaces, they have the same problems. More or less, word for word. And it made me appreciate that the problems that we face weren't unique to us – they are common problems that co-working spaces face, and if we are to assume that co-working spaces are something that should continue well into the future then there are problems we can put together common solutions to.
>
> Interviewer: *What are you thinking about specifically?*
>
> Respondent: Expectations, when people come into a space. Boundaries, how they're set, that the space isn't there to make you successful or to help you deal with your personal problems, those kinds of solutions, codes of conduct, how they're paid for, working with government, working with universities, challenges in those areas. Yeah: all the things that we all talked about and all the things we haven't covered that we should find common solutions for.

While programmers and artists are able to maintain task specificity due to their possession of 'hard skills,' the (often highly gendered) 'soft skill' sets of cultural intermediaries are seen as much more flexible and, as such, used to fill in the gaps between small, independent companies by exploiting new forms of labour and capitalizing on novel forms of intangible value. Many of the taskscape responses detailed how cultural intermediaries are often burdened with small, mundane, or maintenance-related tasks that they do not view as being part of their job description. Strategic directors and coordinators of co-working spaces felt that they were assumed to be responsible for little jobs that 'fell into the cracks' between formally defined areas of responsibility.

> Interviewer: *What is the administrative work that you haven't really succeeded in getting rid of? Sorry, that was a really poorly phrased question.*

Respondent: No, I get what you mean! So, I guess there's accounts, paying bills, invoices, we have direct debit that we have to keep an eye on companies and make sure they're not being overcharged or even undercharged, running events as well, it can be difficult because we're a small team, we're a relatively small space compared to some of the spaces we're talking to here.

These tasks often had to do with tidying, cleaning, and upkeep: more than one participant mentioned that members of their co-working spaces would get upset if the supply of coffee pods was not regularly refilled:

Respondent: Some tasks need [me], a professional human being, to do them. Others don't. Nobody's like: 'Thank god you're here to fill the coffee pods.'

During a discussion of this theme, a participant described how such mundane tasks took valuable time away from their already overstretched schedule, were thankless, went unrecognized, and could have been performed by anyone with a few spare moments:

Respondent: You need to deal with people who are sick of doing maintenance work. Maintenance work is important but invisible.

This labour is also gendered – a female participant observed that male members of the co-working space she oversees were likely to view cleaning/tidying/upkeep as 'women's labour,' and thus not their responsibility. Moreover, these same individuals were prone to express anger and frustration when this 'women's labour' was not continually performed.

Interviewer: *I remember also, in the discussion about emotional labour, and you mentioned support. How does that factor in?*

Respondent: In terms of what do teams pull from me?

Interviewer: *Yes.*

Respondent: Lots. I think the most emotional labour that gets pulled from me is when there's conflict between teams in the space. One of them will come to me, and say 'this is what's happening and it upsets me,' and I have to sit there and listen, and take it into consideration, and if

> it's a serious thing, then deal with the serious matter. And if it's just like 'okay, that's a temporary thing' just let them go about their business for two days and then this will be over. This isn't actually an issue. Most of the emotional labour management is if there's a conflict between two teams, because they don't want to have conflict with each other, so they won't talk to each other directly. So, they'll talk to me, and try to run it through a mediator, or they just need to vent. Instead of them being seen as the bad guy or bad girl or whatever amongst their peers, they use me as their sponge to throw that negative energy into.

The insights gleaned from the symposium demonstrate the difficulties in situating cultural intermediaries in any form of hierarchical structure. Indeed, their space in the industry is ill-defined, and so, their work is largely relational, and their schedules and duties are dictated by the ever-shifting networks of relational labour – both tangible and intangible – in which they are embedded.

Conclusion

Cultural intermediaries working in the independent game development sector have found themselves at the forefront of an ongoing revolution in workplace organization: one that has reshaped workers' roles, responsibilities, and relations to one another. Like many cultural intermediaries in indie development circles, co-working space directors bridge and govern the liminal space between developers and sources of capital, visibility, mentorship, and legitimacy. These spaces are also outwardly valuable, serving as powerful conduits for the concatenation of new trends and upcoming developers worth paying attention to. In this way, a co-working space's value is predicated on how its directors broker relationships both internal – between those sharing the space – and external.

By overtaking the vertical, arboresque models of the past, rhizomatic modes of capital extraction present a new lens through which to perceive the monetization of not only workers, but their subatomic capacities – the bits and pieces of themselves below the level of identity. Like so much cultural intermediation labour, demand for co-working spaces results from small, upstart developers offloading the responsibilities of entire teams of public relations specialists, producers, and advertisers onto single individuals: cementing the expectation that those who exist outside of the 'creative

triad' should perform an exhausting array of relational, emotional, and undervalued labour in order to survive in the industry. To understand how indie development is performed in the contemporary moment, scholars must keep a critical eye trained on the positions occupied, realities lived, and roles played by those whose labour often slips beneath notice.

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Development

5. Game Developers Playing Games: Instrumental Play, Game Talk, and Preserving the Joy of Play

Olli Sotamaa

Abstract
Critical studies of the global game industry have shown how employment in game companies is often advertised as a chance to get paid for playing games. The same love of games that often brings people to the game industry also places them at a disadvantage when negotiating the terms and conditions of work. Drawing from fourteen in-depth interviews conducted with game industry representatives, the chapter traces the different roles and functions playing games has for game developers and how working in a game studio changes their playing habits over time. Developers appear aware of the trade-offs associated with playing games as part of their work and apply various strategies to preserve the joy and relevance of play.

Keywords: game industry, instrumental play, game talk, playful office, creative labour, leisure

'As is customary in Finnish homes and businesses, guests are asked to leave their shoes at the door. Immediately, then, visitors are transported into a soft-padded sense of playfulness, which Supercell, with its colorful decals and relaxed vibe, only emphasizes. One of the conference rooms, the size of four telephone booths, has been converted into a ball pit, full of pink and blue soft-plastic spheres.' (McKenzie 2012)

Game studios are often depicted as play spaces that have the power to transform one's everyday job into an activity that is fun, cool, flexible, and altogether less work-like. In this sense, digital games and their production epitomize some of the increasingly fluid organizational models typical

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of networked creative industries. Prior scholarly work on video game industry (De Peuter and Dyer-Witheford 2005; Kline, Dyer-Witheford, and de Peuter 2003) has shown how creating an alluring image of game development as a field in which work is pretty much about playing games and having fun is one of the key strategies for hiding the extended working hours and repetitive and unglamorous tasks associated with many development jobs.

This chapter suggests that turning the attention to game industry professionals' everyday practices provides an intriguing perspective to contemporary work life. To better understand the blurring of work life and leisure (Fleming 2014; Gregg 2011; Hesmondhalgh and Baker 2011), and the everyday management of creative practices, game studios appear as an intriguing site of study. I draw inspiration particularly from studio studies, a subset of game production studies that puts focus on individual studios and how they shape the modes of game production (see Ash 2016; O'Donnell 2014; Whitson 2020). While this is not an ethnographic study of a single studio, understanding the role of the studio environment is an important starting point for examining the everyday practices of game industry professionals.

Similar to other creative fields, professional game development is often associated with 'passion' and 'calling'. Often, people working for game studios have spent a lot of time playing games already before their game development career. However, as playing games becomes an inseparable part of their everyday work, their relationship to playing is necessarily reconsidered. Often, the same love of games that brings people to the game industry (Dovey and Kennedy 2006) also places them at a disadvantage when negotiating the terms and conditions of work (Kirkpatrick 2013).

This empirical study traces the forms of playing that spawn from the studio environments and around the ways of organizing game development processes. While prior studies have briefly discussed the reasons for hiring active gamers to game studios (Zackariasson, Styhre, and Wilson 2006), or the analytic play styles adopted by game designers (Deterding 2014), full empirical studies are still rare. Special focus is placed on examining how game developers perceive playing games as part of their everyday activities and how working in a game studio possibly changes their relation to games over time.

Today, maybe more than ever before, digital games are created worldwide. At the same time, the contexts of production are intensely localized (Keogh 2019; Kerr 2017; Parker and Jenson 2017). While games may circulate globally, they are shaped by cultural, social, and geographical contexts and

historical trajectories (Jørgensen, Sandqvist, and Sotamaa 2017). If studio studies have commonly focused on AAA productions (Whitson 2020), the Finnish development scene consisting almost solely of small and middle size companies that often focus on the mobile game market provides an apt alternative.

The chapter is part of a decade-long study of Finnish game industry that applies multiple approaches ranging from observations in game studios and game industry events to critical discourse analysis of popular media articles and online forum discussions. Over the years, we have conducted over 40 interviews with local game industry professionals, and the primary dataset for this article consists of fourteen in-depth interviews that touched upon playing games as part of work. The interviews discussed in the article were conducted between 2014–2017. Ten of the informants identified as male and four as female. Their professional roles included e.g. artist, CEO, community manager, creative director, game designer, game tester, HR specialist, operations manager, producer, programmer, and studio head. All developers were Finnish citizens and at the time of the interview worked in a Finnish game studio. The analysis follows a process in which the data was coded to thematic categories that were later revised and refined. Focus was placed not only on the separate categories, but also on the potential connection and conflicts between them. All quotations in this chapter are translated from Finnish. Pseudonyms are used to protect the anonymity of informants.

The chapter begins by looking at the larger cultural and economic shifts that have generated the context in which flexible organizational models and the idea of a playful workplace are triumphing. After this, I take a closer look at the developer interviews and discuss the different roles and functions of play in the everyday work of game industry professionals. Rather than seeing work and play as opposites, the chapter discusses the connections between these activities and the consequences of this interplay.

Playful Work and Creative Labour

At least since the Industrial Revolution, the Western world has seen leisure and labour as discrete categories. One consequence of this development is seen in how both 'adults' and 'work' have been effectively separated from 'play'. As hard work became essential for spiritual life and betterment of self, play was at the same time consciously downgraded to immature waste of

time (Göncü and Perone 2005). In the past few decades, especially with the advent of cognitive capitalism and networked organizations, the notion of work has become more diverse and play has found its way to the workplace both as an organizing principle and an everyday activity.

According to Luc Boltanski and Eve Chiapello (2005), the spread of accessible digital technologies and neoliberal economic principles have had a dramatic effect on work and how it is managed. As the hierarchical industrial model has made room for more flexible organizational models that make employees responsible for their own engagement with the creative process, work has become increasingly insecure and unpredictable. Somewhat paradoxically, work has also become more interesting, appealing and autonomous, as the whole issue of motivation has been dramatically altered (Kirkpatrick 2013). Given the precarious nature of labour, work 'has to involve people in a more engaging and even playful way than before' (Ibid. 23). While the playful and autonomous character of contemporary work can have its enjoyable side, all this comes with a cost: in order to navigate the current working life, the worker needs to be flexible, adaptable, and willing to self-brand in order to survive.

Stephen Kline, Nick Dyer-Witheford, and Greig de Peuter (2003) argue that the management of the post-Fordist workforce involved in the creative high-technology industries requires new means of control. Regarding the game industry, employees are seduced into accepting extended working hours and repetitive, unglamorous coding tasks as inherent to their work. This is made possible by creating an alluring image of the game industry as a business in which 'work is play'. As Kline et al. (2003, 197) observe, '[e]very bit of game marketing and promotion actively discourages us from associating them [games] with such mundane and boring realities as jobs, management, and labour relations.' Instead, they argue, the very notion that work in the digital game industry resembles play is crucial for the industry's self-image. Casey O'Donnell (2014, 148) also pays attention to how the current game industry relies on particular beliefs like 'you get to play games all day' to attract new employees.

Scholars like Tiziana Terranova (2004) and David Hesmondhalgh and Sarah Baker (2011) have shown how forms of creative work, where value is based on immaterial and intellectual endeavour, actively lower the boundaries between work and leisure. Often, work looks less like work-as-we-knew-it and finds its way into the personal lives and intimate moments of employees (Gregg 2011). In other words, neoliberal capitalism displaces the management function of work to workers themselves making jobs increasingly intimate and more difficult to check out from or turn off (Fleming 2014). As Joke

Hermes (2014, 113) puts it, '[l]abour is no longer part of "the other world" in which work is meaningful if you are lucky, as the opposite of leisure time and the opposite of those moments that are most real and genuinely personal. Now work encapsulates the real meaning of life.'

In sum, there are good reasons to argue that the work as play ethos is one of the central strategies deployed by game industry to motivate and mobilize its labourers. The reason why it works so effectively is tied to the fact that most of the people who end up working for the game studios are heavily invested in gaming already before they begin their career (Kirkpatrick 2013). In fact, passion for gaming can often be considered a requirement for game industry jobs (Kerr and Kelleher 2015). In this respect, it is interesting to observe how developer attitudes towards different modes of playing potentially change over time and if this has an effect on the overall motivation to work in game studios.

The Playful Office

Taking a quick look at the media coverage of the successful Finnish game studios, it is noticeable, how the material environments – and the ways they differ from the traditional office set-up – get a lot of attention. For example, when the *Wall Street Journal* (Rossi, Grundberg, and Stoll 2013) told the story of Supercell, they highlighted the transformation from 'one room with very small windows [--] equipped with a hodgepodge of furniture salvaged from a nearby recycling center' to 'a floor in a one-time Nokia Corp. building in downtown Helsinki' that once a week 'becomes a parlor of board games' and hosts champagne parties every time the company decides to discontinue a game project. At RedLynx, 'developers are blessed with a full music game setup, a slot car racing track, a shelf of board games, a poker table, a set of Sumo suits and wrestling mat' (Micu 2010) and Fingersoft has a 'big refrigerator stocked with beer, shelves lined with spirits and a pool table upend any resemblance to a corporate atmosphere' (Rossi 2014).

Systematic attempts to foster 'cultures of fun' in creative workplaces have been documented at least since the early 1980s. As Peter Fleming (2005) shows, supporting workplace fun – including playful environments, office parties, shared non-work activities, playing games, etc. – has typically aimed at increased motivation, creativity, empowerment and flexibility, all potential sources for gaining competitive advantage. On average, the interviewees expressed relatively down to earth notions about their workplaces, but they

surely recognized the described development. Patrik who had worked in a few different companies commented on the situation:

> Right now, you just need to invest in a comfortable office. The competition for employees is so hard in Helsinki. As a consequence, offices are very cosy and comfortable. Currently, we don't have any extreme start-up craziness – like radio-controlled helicopters and foosball tables that we had in one of the companies. But sure, we always have beer and soda in the fridge if you fancy one (Patrik, game designer).

He also openly expressed some hesitancy on the usefulness of the flamboyant interiors.

> I would love to know how much they use the ball pit and the Lego room at Supercell, and whatever they have at Rovio. […] It's super interesting, what happens three months after the launch of these (Patrik, game designer).

As Greig de Peuter & Nick Dyer-Witheford (2005) point out, the key functions of an exclusive workplace are that of recruitment and retention: benefits from gyms and pool tables to subsidized gourmet meals are there not only to attract new employees, but also to encourage existing members to stay. As Frans Mäyrä, Annakaisa Kultima, Kati Alha, and Heikki Tyni (2013), who have studied playfulness in office spaces, argue, playful designs can have a high symbolic value – as a totem of play they work to activate a playful mindset. In this sense, playful props have a function, even when people do not actively play with them.

Timo, a head of middle-sized studio, described conscious attempts to foster an informal and fun office culture:

> We often laugh in the weekly meetings and intentionally exhibit funny things. In one of the projects, the code did not work as planned and the monkeys swung all wrong. They took a video of it and showed it to everyone. That was pretty great (Timo, head of studio).

According to Martin Kornberger and Angela Farrell (2008), who have discussed the different uses of play in organizations, play can both encourage people to think creatively and forget about boundaries that constrain their normal work and become a catalyst within group interaction and team building. Therefore, play has been increasingly adopted by companies 'in the

hope of *unlocking* or *unleashing*' (2008, 1248) the full potential of workers. This comes very close to what Mikael, who worked as a studio manager, had to say about the benefits of a cosy studio space:

> Once you get people to enjoy themselves, they are more committed to the environment. They are more productive and also more open. It's easier to express your ideas and to communicate with others. There are various issues that are connected to it [having a comfortable office] (Mikael, studio manager).

New management approaches present an alternative to bureaucratic officiousness by highlighting the potentials of playfulness and childlike frivolity (Kornberger and Farrell 2008). By bringing leisure time activities inside the organization, this approach has worked to blur the spatial and temporal segregation between work and play in a very concrete fashion. Based on observations in several Finnish game studios, it, however, seems that instead of developing playfulness, companies rather focus on facilitating an overall relaxed atmosphere.

Playing as Preparation for Game Industry Work

The biographies of well-known game designers regularly mention an early engagement with computers and a childhood passion for games (Dovey and Kennedy 2006). This often-repeated narrative conceives playing games and other game cultural activities as a training ground for later professional orientation. The interview data echoes this observation somewhat explicitly:

> I've played since I was very small. I got my first computers when I was two or three, in the early 1980s. My skills developed pretty quickly, and I began to create my own game projects when I was in secondary school. In high school, I already spent more time making games than playing them (Timo, head of studio).

> I think I was seven when I got my first machine, and I'm still on that road. I never believed that you could earn a living by making games. It was more of a utopia. And I was very lucky that I found my way to the game industry. So, yes, it has always been a kind of dream to me (Mikael, studio manager).

In their work on discourses of dominant technicity, John Dovey and Helen Kennedy (2006) observe how game developer biographies actively internalize and reproduce prior discourses. Hacker discourse portrays how breaking into high-tech machines and modifying them to serve developers' purposes is conceived as a pleasurable and fun process. Cyborg discourse accentuates the machine-like minds and almost inhuman propensities achieved already at the early age. Especially developers who have a background in programming seem to find pleasure from 'taming' technologies and their interest towards games takes very specific forms. Hugo, who began his career as a programmer and has now worked as a CEO for years, described his relation to playing games:

> I played a lot when I was younger. That's when it all started. But when I started to code seriously at the age of 15 or 16, I played games less. I became interested in games in a different way. It was more about dismantling games and learning how they worked. Of course, I still try a lot of games, but I don't necessarily play them for their entertainment value. It's more about research work, has been for the past twenty years. It's a bit of a different starting point compared to actual 'gamers' (Hugo, CEO).

It seems that, in most cases, finding employment in the game industry has been a convoluted and serendipitous process. Actively playing games has surely contributed to understanding that making games can be an actual job. Some informants had also found like-minded people through gaming who then later became co-developers. In some cases, being well-informed about what is happening in game culture has played a role in finding employment. In most cases though, at least some forms of playing have transformed towards being more 'analytical' or 'designerly' long before the first proper game project or industry job.

The dominant narratives around the Finnish game industry often accentuate how the foundations for the local industry was laid out by hobbyists. Demos, self-contained audio-visually imposing computer programs, and the scene around them is often mentioned as one key seedbed for the early game companies (Hiltunen and Latva 2013). As discussed in our prior studies, the discourses around the demoscene actively worked to naturalize and legitimize a dominant technicity that relies on autodidactism, inherent competitiveness, and celebration of virtuosity (Jørgensen, Sandqvist, and Sotamaa 2017; Tyni and Sotamaa 2014). This is the highly gendered ideal subject the early Finnish game studios inherited from the hobbyist circles and while many things have obviously changed since, it is telling

that alternative takes on playing games came almost solely from female informants:

> For a semi-outsider like me it is interesting to observe how large a portion of gaming is about watching others play. Often we sit here with the whole crew together and watch two people play. Still, I don't play that much, other than simple time-wasting mobile games (Anna, HR specialist).

> The largest threshold for gaming, for example for starting a new game, is that I'm afraid that I'm not good enough. And this is of course very stupid. Especially for games like Overwatch, I'm too nervous to begin the game as it's online and there are others playing the same game (Elisa, marketing and community manager).

While male informants were happy to share their extensive histories with games and sometimes able to reflect on, for example, how having children had possibly affected their gaming habits, it was mostly the female informants who had the courage to express real concerns related to games and playing. This is also directly related to the gendered division labour within game studios. Core development team positions, and especially programming related jobs, are still typically dominated by males, whereas non-development jobs like PR and marketing, community management or HR management often have a more equal gender division (Deuze, Martin, and Allen 2007; Kerr and Kelleher 2015). Even within a single studio, people can have very different roles, and this ends up influencing how their relationship to games evolves.

Playing Together

Most of the studios I have visited over the years and every single one I visited for the interviews had a dedicated room or at least a corner for playing games. The interview with Anna, who worked as an HR specialist, started with a small tour of the studio premises:

> Here you can see that we have all the recent consoles so that you can test the latest games. Playing is an essential part of our shared activities. It's about building community and all this. [...] Often we all sit here, two people play, and others watch. It has a major role in your occupational

> development that you keep your eyes open and see what others are doing (Anna, HR specialist).

As Anna mentions, spending time in these shared game spaces can serve various functions that are also connected to the everyday development tasks. In addition to team building, getting to know each other and creating mutual trust, playing together is also about learning from each other and understanding how people may pay attention to different aspects of games. Leo, operations manager responsible for project management and employer well-being, described the pedagogical value of playing together:

> When you play a console game and others gather around you, it is interesting to see what kind of observations different people make. Some people may focus on a beautiful animation whereas others look at mechanics, or whatever is their thing. Someone may have special expertise in certain issues and it's instructive to focus on one thing at the time together. You learn much more than with your own eyes alone (Leo, operations manager).

Importantly, playing together can help to accumulate shared vocabulary that is useful when collaborating in game development related tasks. O'Donnell (2009, para. 1.6) uses the term 'game talk' when referring to the process that 'provides discursive resources for developers when trying to describe abstract concepts like game mechanics'. Game talk is utilized to make sense of the systems and structures that developers attempt to create, and it helps developers with different backgrounds to communicate ideas to each other. Game making processes are rarely based on formal software development standards and therefore game talk serves as a kind of working manual. Patrik gave an illustrative example of how game talk works:

> I think it's crucial that employees have an extensive knowledge about games. […] Every day I have a discussion in which I refer to a game I played years ago. I can say let's make a similar catapult as the one on in Defender of the Crown [a strategy game from 1986]. And then we talk a moment about Commodore 64 and the time when Defender of the Crown was a really great game. And then we agree to make a similar catapult as they had in the game (Patrik, game designer).

This example shows how extensive knowledge of popular game history and fluency in game talk can significantly speed up the game

development process. In this sense, game talk can surely be a productive tool for uniting different disciplines inside game studios. At the same time, game talk can also be used to exclude (O'Donnell 2009). Difficulty with game talk can be encountered, for example, by people who have not been avid players growing up and may therefore be familiar with a smaller subset of games. In this respect, game talk is easily gendered and can also work to exclude the people in non-development positions. Another key factor that determines one's game talk fluency is generation (Consalvo 2016). A person needs to be of a particular age to be familiar with *Defender of the Crown* (Cinemaware 1986) and to get excited about Commodore games.

Some game companies clearly recognize the value of engaging in game talk. In these cases, playing together and sharing gameplay experiences is incorporated into everyday processes of a studio.

> Our company hosts a game club. Every week we choose a new game, play it for a week and then we get together during a workday to discuss what it was like. And then we play the next one (Patrik, game designer).

> We have a large game library [at the studio] and you can take games at home as well. […] If playfulness is part of what you're working on, it makes sense to be into it and try to understand it even in your spare time (Laura, game designer).

The game club Patrik mentions is not about playing whatever employees want to, however. The list of games is carefully curated in the way that this activity should contribute to the development of the studio's ongoing titles. Laura's example shows how playing also actively blurs the boundaries between work and leisure, extending the work-related thinking to one's spare time playing moments. This behaviour also shows how playing the latest games becomes a way of maintaining one's status as a qualified employee and to keep one's shop talk up to date (O'Donnell 2009).

Instrumental Play

Due to the competitive and quickly changing nature of the global game industry, the informants often reported a constant process of benchmarking their key competitors and other newly released games. In practice, this

meant more playing. Max, who worked as a creative director, provided an overview of his usual process:

> My playing is very goal-oriented these days. I check out what's new and cool in this genre right now. And then I download a certain number of titles and check them out. I don't necessarily use too much time for this. I just want to get a basic understanding of the game and the core experience (Max, creative director).

Since Max was, among other things, responsible for communicating with the funders, who had made significant investments to the studio, he had to showcase intimate knowledge about the industry trends. In general, many of the informants reported playing mobile games and free-to-play games for benchmarking purposes and stated that this activity was sometimes repetitive and boring. In her work on power gamers, T.L. Taylor (2006, 88) has shown how the idea that playing games should be fun is challenged by more instrumental modes of playing 'that rest on efficiency, (often painful) learning, rote and boring tasks, heavy doses of responsibility, and intensity of focus.' The one and the same game can be played in many ways, depending on the purpose and context of the playing session.

In his study of different instrumental keyings of playing, Sebastian Deterding (2014) has shown how both game designers and game scholars engage in an activity he calls 'analytic gaming'. In this mode, attention is not so much focused on game fiction or gameplay, but rather on those aspects of the game that are relevant for a specific research agenda. Instead of being self-governing and autotelic, playing the game is motivated from the outside and aims at collecting relevant data for answering pre-defined questions. Elisa, a marketing and community manager, highlighted how her gaming at work focused mostly on checking the features relevant for her work.

> I mostly play mobile games at work. I download them and then play for a little while so that I get a grasp of the basic idea and the structure. Social features are especially the reason for my interest. It is useful to know what others do (Elisa, marketing and community manager).

As developers get used to quickly working through games that they do not find necessarily interesting in the first place, they create a different, more superficial and momentary mode of engagement. This is further supported by the fact that analytic gaming in the workplace often faces interruptions from more important work-related tasks (Deterding 2014). The game development

profession that arguably engages most frequently in forms of instrumental play, is video game testers, also known as quality assurance (QA) personnel. They are basically employed to play different versions of the game and to ensure that the critical bugs and inconsistencies are identified. Otto, who worked as a QA specialist, described his typical morning routine as follows:

> I just play the game a bit, check out if anything's broken. Then I tell people to fix it if something's broken. At the same time, I look at how the players play the game, and if the game crashes. I also check out if players write reviews and then I bring this data to our meetings (Otto, QA specialist).

Playing for the sense of duty has its consequences though. In his study of game testers, Ergin Bulut (2015, 240) uses the term 'degradation of fun' to describe the process in which 'testers are alienated from play and forced to develop instrumental and selective ways of play.' Traditionally, testing happened mostly before the release but these days more and more games are available 'as services' (Sotamaa and Karppi 2010), constantly online and frequently updated (Švelch 2019). This often means that the instrumental modes of playing are not limited to testers, but playing your own game becomes an everyday task in many different game studio roles. Niklas, who worked as a producer and product lead, described his routine outside the hours spent at the studio:

> I often take the latest version of our game [--] and play half an hour late at night. Or then it just runs here on my iPad and sometimes I check out things from it. I do this also on weekends, check out that we have certain analytics in place. In fact, it is my indirect responsibility to check that the game runs as planned also during weekends (Niklas, producer).

This example also connects gaming to larger discussions related to contemporary office culture and new ways of organizing work. Melissa Gregg (2011) argues that professionals in many different fields now have a more intimate relationship with work. This is especially visible in the so-called professional presence bleed as latest online technologies allow work to invade spaces and times that were previously mostly detached from work-related activities. In other words, as management of work and associated responsibilities and risks are outsourced to the employers, it is increasingly difficult to tear away from work. In the case of game developers, the challenge is further boosted by masking the daily activities as 'just playing'.

Preserving the Pleasures of Gaming

Constant playtesting of prototypes and benchmarking of competitors' games can transform playing into a repetitive, tedious, and instrumental activity. This easily operates against the somewhat idealistic and celebratory perceptions of playing, which often propelled workers to the game companies in the first place. One can, of course, argue that these activities should not be considered as playing in the first place. A well-trained observer may be able to indicate when playing turns into performance evaluation or quality assurance. And still, game industry professionals mostly talk about playing and gaming.[1]

When talking about playing, many informants were able to reflect how their relation to gaming had changed over the years. If one's work is to understand how the game is structured and how players interact with these structures, it is sometimes difficult to come out of their professional role:

> You can't take the designer's hat away. You just have a more analytical attitude. You realize it when you play with friends who are not in the game business. I'm just like 'oh my, how well this is designed and everything' (Susanna, game designer).

> Then there's the designer's dilemma: do you play just for fun or do you play with your designer's critical glasses on. Sometimes it's very hard to detach oneself from that [critical] mindset (Laura, game designer).

Prior research indicates that extensive hours spent analysing and designing games also has repercussions on how leisure is structured. According to Bulut (2015, 247), 'playing games for fun is no longer the same experience: testers find themselves criticizing art, gameplay, and design decisions.' The displeasure associated with forms of analytic gaming that find their way to leisure play often arises from the lack of autonomy and intrinsic enjoyment (Deterding 2014). At the same time, it seems that for many informants gaming still remains a hobby and somewhat paradoxically also a way of taking a break from work. It is, however, clear that developers become much more selective in their gaming preferences.

1 It is useful to remember here that the interviews were conducted in Finnish and that Finnish language makes a clear distinction between 'play' and 'game'. Both 'leikki' (play) and 'peli' (game) have dedicated verbs reserved for them (*leikkiä leikki – pelata peli*). As a result, informants mostly use the word 'pelata', which translates as 'playing a game' or 'gaming'.

> It is difficult not to benchmark. I can enjoy games that take me away from that mode. They are normally very different [from the company's own games]. If I've got a premium game, then I can play without constantly analysing, as it is such a different experience (Max, creative director).

> It is clear that I play more games that I'm not personally very interested in. They just have a certain design or business gimmick that I want to investigate. [...] In my spare time I like to play board games, role-playing games or larps. I just rather get away from digital environments (Laura, game designer).

Although developers appear aware of the consequences of instrumentalized play, they also seem to find strategies to negotiate and protect the autonomy of playing. While some genres and modes of playing are 'contaminated', others can become a sort of a safe haven and a channel to connect with the experiences that created the close relationship with games in the first place.

Discussion and Conclusions

Some of the traditional theories of play and playing posit that once outside factors begin to leak into the domain of play this world loses its special nature. For Caillois (1961, 45), this 'contamination' or 'corruption' is encountered when things like obligation, professionalism, or economy are connected to play. Scholars like Taylor (2006) have importantly shown the need to find more diverse ways to understand and theorize the forms of pleasure and labour associated with games. The results of this study indicate that the core processes of game studios may not be particularly playful at all. Instead, companies focus on facilitating a relaxed atmosphere, which makes employees primarily responsible for their own engagement. Since many developers are heavily invested in gaming anyways, playing games becomes a part of many different game studio activities.

Based on the empirical data collected among the Finnish game industry professionals, this study has shown how playing games has several roles within the everyday activities of a game studio. Games are played for team building purposes, to create shared discursive resources, and to make sure that the product in development works as planned. Developers also play games to showcase up-to-date knowledge about the field and to maintain one's status as a qualified employee. In addition, playing at work seems to have consequences for one's leisure time playing habits. While game

developers appear relatively well-aware of these trade-offs associated with work-related instrumental play, they also admit missing the 'simple pleasures' of gaming. Consequently, different strategies are applied to preserve the relevance and joy of play. Sometimes this means playing very different games than those they are working on or those they used to play before working for the game studio.

Finally, the tendency to study media consumption and production in separation may be a mistake in the first place (Sotamaa 2009). While game studies has increasingly addressed the productive and laborious forms of play, game production studies can provide important insights to the negotiation of playing within work contexts. This chapter has been an attempt to highlight some of the complex motivations, pleasures, and pains associated with playing within the game studio context. This is, however, more of a starting point, a call for others to extend, deepen, and question these ideas. It is also clear that one needs to take into account the particularity of the Finnish game development environment, with a strong focus on mobile and free-to-play games, when thinking about applying the results. As Jennifer R. Whitson (2018, 3) argues, studio studies are valuable to game studies as 'they highlight how both game scholars and developers approach their work with idealized preconceptions about game development roles, processes, practices, and values.' Therefore, and based on the issues raised in this chapter, game production studies can also have an important contribution to the core definitional questions in the field of game studies.

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6. Game Development Live on Twitch: Observations of Practice and Educational Synergies

Mia Consalvo & Andrew Phelps

Abstract
This chapter explores how professional game developers live stream their creative work on Twitch.tv. It asks how these developers engage in co-creative acts with their viewers and how they engage in game talk during their design process. These practices lend themselves to daily professional practice and advancement, which is structurally incentivized by the platform itself. This chapter is therefore framed in a broader examination that questions the potential use of streaming platforms as educational environments, and how these practices intersect both formal and informal educational models. There are synergies between the practices emerging on Twitch and the educational practices surrounding game development as a field as universities find themselves engaged in exploring how to deliver educational experiences at a distance.

Keywords: game development, streaming, game education, Twitch, game industry

This chapter[1] explores how professional game developers live stream their creative work on Twitch.tv. It asks how these developers engage in co-creative acts with their viewers and how they engage in game talk during their design process. These practices lend themselves to daily professional

1 Portions of this work previously appeared in 'Performing Game Development Live on Twitch' (Consalvo and Phelps 2019) and in 'Development Streaming as a Pedagogical and Community Strategy for Games Education' (Phelps, Consalvo, and Egert 2018). Additional material and analysis have been added and synthesized to build a more detailed argument.

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practice and advancement, which is directly encouraged and structurally incentivized by the platform itself. This chapter is therefore framed in a broader examination that questions the potential use of streaming platforms as educational environments, and how these practices intersect both formal and informal educational models.

Game development and production draws upon multiple individual fields, approaches, and areas of expertise. Scholarship about these practices is coalescing, yet struggles to keep up with the rapidity of technological and programmatic innovations in the field. Public understanding of game production is often stereotypical, misguided, or non-existent, which often leads to misunderstandings between developers and players about the relative difficulty or feasibility of a given feature or fix, as well as negotiating issues such as pricing, availability across platforms, etc.

In considering game production from the vantage point of developers themselves, there are several intertwined issues and motivations at play. How do game developers actually engage in the act of game creation? How do they *experience* the act of creating games? How do they talk about it, both with other developers, and within their player communities? Scholars have generated key knowledge focused on larger business trends in the game industry; the practices and attitudes of individuals at game jams and other limited term game creation events; and through the discourses and work of independent developers who are more committed to sharing knowledge with both scholars and other developers. Much of this research still fails to examine how game developers themselves talk about the process of creating games, and how the work itself can be directly observed.

This chapter presents a preliminary exploration of these questions by directly observing professional independent game developers that stream their work online. It begins by examining existing findings in the observation of game production, reviewing existing work regarding streaming from this vantage point, presenting a methodology for observation, and presents discussion and analysis of the results of such observation with regard to motivation, current practice, co-creativity, and professional discourse.

This chapter also examines how developers experience game creation *over time,* and their *continued practice as a professional* – i.e. how they continually engage in the practice of game development, how they learn game production in the first place, and how they improve their own practice and knowledge of the craft, either formally or informally. While the streamers observed were not explicit about the educational aspects of their work, it is clear that they were motivated to continually make the best games possible, and to continue to improve their own skills, incorporating criticism, and integrate

new knowledge over time. Similarly, those observing such streams often had an informal educational objective, seeking either to better understand game development in general, and specific techniques.

More generally, there is substantial interest at this point in *how one becomes a professional game developer*, and there has been an explosion of interest in this topic in both formal academic programmes and courses as well as informal popular literature, code camps, and after-school experiences. Very few of these efforts are informed by the direct observation of professional game developers. For these reasons, this chapter incorporates a review of a relevant model of deliberate practice and how this intersects the practice of game development and also relates the observed practices of professional developers to more formal educational theory that underpins both their own practices and those of relevant curricular efforts.

Background on Game Development

Most scholars who have investigated the daily work routines of professional game developers have done so via ethnographic studies, including of Montreal indie studios housed in an accelerator programme, to determine 'how indie developers frame risk, creativity, success, and failure in relation to the communities they are a part of' (Browne 2015, 4). Likewise, Chris J. Young (2018) followed 'independent game makers' to better understand how they were influencing the larger scene or culture of game development. Boriana Koleva et al. (2015) studied the tools and design processes used by a small Spanish studio, noting the 'sheer quantity of collaborative work' that was necessary to complete projects. Similarly, Casey O'Donnell (2014) observed the daily production practices of a AAA studio, and how it navigated everyday challenges including tool development and use, the difficulties of communicating across specialist areas, and navigating the industry's secrecy demands. O'Donnell (2014, 42) also writes about the importance of 'game talk' – a shorthand for workers to use that abstracts from references to older games or game genres.

John Banks (2013) similarly conducted a multi-year ethnography of the Australian studio Auran. Banks had privileged access to daily work practices, including the developers' at times uneasy relationship with the game's players. Banks's development of the concept of co-creative cultural production is important for our project, as it highlights the combination of a 'bottom-up and peer-to-peer dynamic among amateurs,' which also requires 'the craft skills and knowledge and commitment of professionals and experts' (2013,

3). Yet, Banks also notes that co-creativity often generates 'uneven practices,' and 'irresolvable tensions and conflicts' (2013, 4).

The work of game development has become more public facing as smaller developers write about their processes and challenges on both personal blogs and more professionally oriented industry websites, as well as creating videos and live streams of their development work on platforms like Twitch. While all such outlets are mediated in some way, the potential for live or relatively unfiltered content to reach outsiders and give a glimpse into game development and the everyday lives of developers deserves closer scrutiny. Such activities are done for many reasons, but universally create valuable opportunities for better understanding developers and the act of game making as it happens.

In consideration of these activities from a motivation and advancement perspective, a popular finding from behavioural psychology is the so-called 10,000 hour rule, which holds that, in order to master a complex task, it takes approximately 10,000 hours of concentrated practice to achieve expertise (Ericsson and Smith 1991). Summarizing but also critiquing that finding, J North (2012) writes that what is actually critical is *deliberate practice*, i.e. continually integrating additional skills, and consciously reflecting on the use of learned skills and material in considering how we learn complex tasks. This is especially true in early stages of experiential learning, i.e. the cognitive and associative phases (Fitts and Posner 1967).

This concept of deliberate practice is useful in exploring how professional game developers learn their craft and/or continuously improve. To the extent that game development intersects with computer science and/or programming, the idea of dedicated practice is well covered territory with respect to educational engagement. Most curricula today in computing are practice based, i.e. students learn to program *by programming*, and to create applications *by building them*. The process of creating game art and animation is similar as education in the traditional fine arts are almost wholly based in notions of deliberate practice and repetition.

Background on Streaming

Some of the earliest scholarship on live streaming was Theresa M. Senft's (2008) work on camgirls. Senft theorized that such individuals' activities embodied a way to create 'microcelebrity' around a 'brand' that expressed the cammer's self presentation. Senft (2013, 347) writes more recently about social media influencers that 'a successful person doesn't just maintain a

place on that stage; she manages her online self with the sort of care and consistency normally exhibited by those who [...] believed themselves to be their own product: artists and entrepreneurs.' Developing a following would be advantageous to creating a fan base for one's future games. But is that the only reason to live stream or are there other factors involved? Little or no research has investigated that topic, with researchers instead focusing on video game audiences and the players who can become professional streamers by successfully broadcasting their own consumption of and commentary about video games.

Over the past decade, gameplay streaming and related research thereof has become enormously popular. Initially, most scholarly attention was on practices surrounding esports (N.T. Taylor 2016; T.L. Taylor 2012), but research has expanded to those who engage in variety streaming, with the draw being a streamer's personality. William Hamilton, Oliver Garretson, and Andruid Kerne (2014, 1315) argue that Twitch streams can act as 'virtual third places, in which informal communities emerge, socialize, and participate.' Mark R. Johnson and Jamie Woodcock (2019) point to how live streaming can push players to 'building an audience' although not everyone can be successful.

Yet, so far, work on game live streaming has focused almost exclusively on *players.* But what of game developers who stream their activity? What are they doing on a daily basis, and how are they talking about their work, both on stream and in other development-related spaces? Although it has been occurring for some time unofficially, Twitch officially launched the Game Development category on 16 October 2014 (Crecente 2014). A few weeks after the launch, Brian Crecente noted that about 200 people were watching sixteen streaming channels. On 6 June 2018, the Twitch Game Development category had 535 viewers at 2:00 pm EDT spread across 63 channels. While these numbers may seem small as compared to the large streams present in streamed e-sports, they still represent a sizeable community of practice worthy of investigation.

Empirical Cases: A Tale of Two Adams

In order to examine the practice of livestreaming game development, this project takes an exploratory approach via an analysis of two live streams. In each case, we are focused on two research questions:

1. How do game developers engage in co-creative practices with audiences while live streaming their game development work?

2. How do game developers engage in game talk and/or exhibit characteristics of professionalization with audiences while live streaming their game development work?

To begin, we identified two game development streams to view in order to gain insights into how developers were engaging with their viewers.[2] We then relate the observed behaviours and patterns to educational theory and practice as it pertains to more formalized efforts to teach (and therefore learn) game development, and explore several synergies between the activities of the streamers observed and pedagogical approaches to game development education. Because these streamers, and their audiences, are all engaged in this activity in publicly available broadcasts on the internet, and the methodology was observational, institutional review board approval was deemed inapplicable for this work.

Game developers live stream for many reasons, including to increase promotion for their upcoming games and to make money from the practice (Consalvo and Phelps 2019). More centrally, developers stream themselves for three reasons: to promote their own accountability while working; to gain feedback or help if needed; and for sociality, as many small developers often work at home or in isolated settings. How does such streaming unfold in daily practice?

We selected one developer working on coding, and another focused on art, both of whom streamed regularly, and had a streaming history of at least a year. To make specific choices, we examined online lists of recommended development streams, and viewed live streams in the Twitch Game Development category to ensure activity and audience. The two streamers selected were: Adam13531 (now referred to simply as Adam), an American programmer making *Bot Land* (Xtonomous 2019); and Chluaid, an Australian artist working as part of a two-person team on *BrackenSack: A Dashkin Game*.

For each streamer we viewed a randomly selected archived stream, rather than watching a live stream, so that we could pause or rewind to make notes

2 For this project, we report explicitly on the activities of two professional game developers who live streamed their development process. However, this study is also informed by two much larger projects, including one that observed hundreds of hours of art streamers (Phelps and Consalvo 2020) and one that is a multiyear project investigating variety streamers, and comprises hundreds of hours of observation of live streaming, 40+ in-depth interviews with live streamers, and dozens of hours of auto-ethnographic experiences with streaming. This is mostly to say that although the data provided here is only one small slice of what we have studied, it is representative of larger trends in live streaming both for professional and leisure ends.

and take screenshots. We viewed the first two hours of one stream for each developer, which provided sufficient data to give us an initial view of how individuals set up and ran their streams, what kinds of communities were present, and how they engaged with those communities.

Adam's channel was often the most viewed stream in the Game Development category on Twitch, and he has also written extensively about the process of live streaming and development. Adam's game *Bot Land* is a multiplayer online strategy game 'with a focus on automation' ("Bot Land – Free Automated Strategy Game" n.d.). The game was in beta release at the time of our observation and was subsequently released on Steam in September 2019. The game allows players to design bots, tell them what to do, and battle other players. Adam is the central developer of the game, although he has hired artists and user interface designers.

Adam began streaming development of the game in September 2015, became a Twitch partner a year later, and has streamed for nearly 5000 hours, listing a regular streaming schedule of 32 hours a week. His stream averaged 129 viewers, and had 18,011 followers according to Twitchmetrics. He also maintains multiple FAQs about his stream and game, a blog, a subreddit, and Twitter and YouTube accounts.

We selected his 1 May 2018 stream for viewing and analysis. Overall, the design and layout of the stream itself stresses functionality and simplicity, and is both minimal and optimized for programming as a core activity (see Consalvo and Phelps 2019). The title for the stream changes each day, listing the number of days that the game has been in development, some theme or commentary on the day's activities, and any categories Adam has linked his stream to. For 1 May, for example, Adam's title was 'I have a knock joke, but you have to start it (day 494) #gamedev.'

The second analysed stream was from Chluaid (Adam Phillips, here referred to by his screen name to avoid confusion), an Australian artist/animator for the studio Brackenwood Games, a partnership with Kirk Sexton, a coder from the US, who also streams his game development work. *BrackenSack* is a multiplayer 2D side-scrolling ball game already in release for Windows, but had a Steam launch planned for late 2018. During the stream, Chluaid was creating art for a new level in the game, as well as animations for a new character ability.

Chluaid has been streaming for seven years on various platforms. He began streaming on Twitch in October 2011, currently has 10,178 followers, and averages 47 viewers per stream according to Twitchmetrics. Chluaid is partnered, and his Twitch channel screen features handmade art that includes his streaming schedule (Saturday, Sunday and Monday 1–6 pm

and 7 pm – midnight) and his time zone, and numerous other links and information displays. Interestingly in his channel rules under 'No' he lists no 'backseat animating. I am a pro' along with no trolling, bullying, and harassment.

We chose to analyse his stream from 2 June 2018. The differences in visual design between Adam and Chluaid were immediately apparent, and perhaps to be expected, given Chluaid's background as an artist and focus on brand (Senft 2013). Chluaid's stream featured numerous additional visual elements, animations, and links and resources to his other work (see Consalvo and Phelps 2019). Especially compared to Adam's more Spartan layout, Chluaid's stream would be instantly recognizable, even if you did not see his name or face.

Both streams followed many of the conventions that others have found for variety streamers (Consalvo 2018). Both developers welcomed their viewers and talked about what they wanted to accomplish in the game's stream. Both also created a to-do list on the stream itself, walking viewers through what they were doing, why, and how it related to the game overall. They greeted people, answered questions, and offered commentary on their personal and professional lives. Chluaid also immediately asked if anyone had seen his partner Kirk's stream, as it had just been hosted by prominent indie developer Jonathan Blow, and had seen its viewer count reach 120 people (which was obviously much larger than normal). At the beginning of his stream, Chluaid worked to create a sense of community with his followers, often by employing inclusive language such as 'let's open up the editor and have a look at the game as it is.' These rituals are nearly identical to many variety game streamers other researchers have studied, and suggest it is not only game streamers who seek to form social ties and connections – or the appearance thereof – with their audiences (Scully-Blaker et al. 2017).

Afterwards, Adam moved to the creation of a straw poll for a later stream, which asked viewers to vote on what type of stream it would be – playing a classic Super Nintendo Entertainment System (SNES) game or coding a non-*Bot Land* challenge to be determined. Next, he detailed his work for the day. Then his work began, and the stream's rhythm became normalized. Adam would talk aloud about what he was trying to do (such as finding a code library with some basic code he could adapt), he read aloud as he coded, he would pose both rhetorical and literal questions to his chat, and he would constantly monitor and respond to the chat. While Chluaid's approach was similar to Adam's, he was more laid back and less explicit in terms of his style and approach.

Other scholars have suggested that how streamers interact with their chat changes qualitatively as a stream gets more views, and it becomes difficult for the streamer to both identify and process individual calls for help, information, or recognition (Scully-Blaker et al. 2017). Rainforest Scully-Blaker et al. (2017) posit that smaller streamers are playing *with* their audiences and can engage in meaningful interactions with them, while larger streamers are playing *for* them, and often only selectively respond to chat, and/or rely on moderators. During his stream, Chluaid had few problems interacting with his chat while he was working on his designs, even if his answers were sometimes delayed. Adam did his best but sometimes struggled, particularly if he was intently working. Adam has written about the challenges of remaining interactive with a growing viewership (Adam 2018). This breakdown is happening as his average concurrent views are breaking 100 – a much smaller number than most variety streamers would consider large, as the cognitive load of programming a game can be complex. This may suggest there are no firm lines bounding the specific size of view counts that signal a shift in interaction style (playing with or for) for different kinds of streamers.

Chat volume varied – Adam's included a number of active individuals and was nearly always scrolling upward. Moderators, subscribers, and general viewers were all present. At least some individuals appeared very knowledgeable about the project, and answered questions that newcomers posed, or triggered bots that would provide those answers. Chat would also sometimes tease Adam about various things (such as his resemblance to actor Jeff Goldblum), and appeared lively and without toxicity. Adam was adept at keeping up a near-constant pattern of talk and interaction while streaming, to complement the coding work he was doing. In contrast, Chluaid had a dedicated but smaller group of chatters who often fell silent, although they too would provide answers to new viewers, and would joke amongst each other when Chluaid fell silent.

One distinctive element of Adam's stream was his heavy use of bots, FAQs, and other documentation in response to viewer questions and comments. Even though Chluaid had some similar streaming elements, the sheer number of Adam's various explanatory texts and materials was notable. Although they obviously took quite a bit of work to create, ultimately these components served as a labour saving device for him. In addition to streamlining certain tasks, this has also created a brand association for Adam – he is the well-documented game coder/creator. As Senft (2013) would argue, streamers are looking for ways to attract views, and adopt particular styles or personas to differentiate themselves from similar streams. Adam's

labour saving devices mark him as the well-organized, near obsessively documented game developer who has the answer to (almost) any question somewhere in his FAQs, while Chluaid's design choices for his channel created a different kind of impression and brand.

Discussion and Analysis

In consideration of how these streamers engaged in co-creative practice with their streaming community, we found multiple ways they do so, including Adam's straw poll, and both Adam's and Chluaid's deployment of informal knowledge sharing, general sociability, and soliciting and/or accepting help from their respective communities.

As mentioned above, at the start of his stream Adam created a straw poll, to have audience members vote on what a future stream would focus on. At the time we stopped viewing, votes heavily favoured Adam working on a basic coding challenge, which suggests his audience is interested in technical work, and in learning from Adam. The creation of the poll itself ensures that the audience has some say in what Adam is doing – they are helping to determine the activities, even if it is concerning a 'bonus' stream apart from his normal work.

Both developers engaged in regular social banter with their streams. Such social interactions create bonds between participants, and make the space feel familiar, with in-jokes, common topics of conversation, and familiar 'faces'. In creating such spaces, Adam and Chluaid facilitated the building of participatory cultures, where individuals can feel comfortable interacting and hanging out, which leads to greater possibilities for sharing insights, knowledge, and work-related information (Jenkins 2006). This kind of space also provides a welcoming environment for beginners and hobbyists.

Informal knowledge sharing also happens on stream. For example, while starting his stream, Adam noticed that his Chrome icons were displaying as default versions, and asked 'has anyone else had this Chrome problem where the icons are gone?' His question suggests Adam is comfortable asking others for help or input, setting the stage for more formal requests later on. Chluaid had similar interactions with his audience. Such back and forth with help and advice is ultimately controlled by the streamer, but also positions the streamer as a person unafraid of asking for aid, and the viewers as potentially knowledgeable. Yet, not all informal requests to share/help are fulfilled. Later in the stream Chluaid asked, 'I think I asked yesterday and never got an answer. Is there such a thing as a silent controller?' but received

no answer to his question. As other researchers have found, individuals can sometimes fail in their actions on stream, but must carry on regardless of particular outcomes (Consalvo and Sugiarto 2016).

Other aspects of co-creativity appeared organically throughout Adam's stream and interspersed in Chluaid's stream. This is likely due in part to Adam's talk aloud method while coding, where he poses questions out loud that he is asking of himself as he builds his game. Because many of his viewers appear to have similar technical backgrounds, they often offer suggestions as he is working in an interactive manner. This illustrates several practices that Banks (2013) discusses in relation to successfully enacting co-creative design and development. Yet, just as Banks found pushback with developers he observed, Adam likewise struggles in dealing with the increasing volume of feedback, and how to most efficiently sort through it, without giving his stream or his development practice short shrift. In contrast, Chluaid did not always explicitly ask for advice, but employed a similar talk aloud technique. At times, he would incorporate audience suggestions, but other times would not (Consalvo and Phelps 2019). As Banks (2013) has noted, even when potential (or actual) players suggest a seemingly good idea for level design, the developer has ultimate authority over what is implemented, and is somewhat ambivalent in their reaction to such advice.

We found very few instances of formal game talk. There were none mentioned in Adam's stream, and only one in Chluaid's, as a viewer asked if the game was 'like speedball for amiga' to which Chluaid laughed and replied 'I don't know, what does speedball for amiga look like?' He then went on to further describe his game, likening it to football as a way to make it recognizable. This instance points to a problem that O'Donnell (O'Donnell 2014) highlights with using game talk at all – all parties involved must be familiar with the reference for it to succeed. Further research should investigate how frequently game talk occurs in other developer streams across a wider sample.

Yet, in considering the general notion of game talk more broadly than O'Donnell's original work, there were several instances where Adam's talk-aloud methodology can be seen as such. His practice is essentially a community oriented 'talk aloud protocol' as discussed extensively in computing education literature (K. Young 2005) with strong ties to the previous discussion of deliberate practice, and as a mode of co-creative practice. Interestingly, *it is the platform itself* that incentivizes this behaviour: current streaming conventions demand that streamers narrate their activity or otherwise fill the air, and so what has been remarkably difficult to achieve

in introductory computing classrooms is emerging on Twitch through the norms that have developed around the platform.

In fact, the educational synergies between the observed practices extend well beyond verbal narration, having deep roots in both constructivist and constructionist educational models (Papert and Harel 1991; Powers and Powers 1999), which the authors have explored elsewhere at length as related to more formal efforts in game development education (Decker, Phelps, and Egert 2017; Egert and Phelps 2011). Constructivist methods also take advantage of the so-called 'zone of proximal development' (Vygotsky 1987), which holds that successful learning can occur if tasks are 'scaffolded' in such a way that there are demonstrations of successful practice, ideally coupled with a community of similar practitioners at approximately the same or a slightly more advanced level (Brooks and Brooks 1993). Constructionist models focus on the building of a particular object or artifact, and successful learning is tied to the creator's closeness to the object, and often proceeds in a self-directed fashion rather than a pre-established path (Papert and Harel 1991).

The relationship between many of these theories and what is happening in modern streaming communities – as signified by Adam and Chluaid's streams – is notable. We witnessed a clear commitment to daily and deliberate practice in the creation of a complex artifact. Thus, these streams are a form of constructivist/constructionist learning environment, both for the streamer and potentially the other participants engaged in observing the activity. Providing 'soak time' (i.e. scheduled and repeated opportunities for deliberate practice) is of particular interest in some formal educational experiences focusing on development (Phelps et al. 2006), and this shared motivation of both educators and professional streamers is intriguing, particularly as it is highly ingrained in the platform itself. Similarly, the practice of these streams is seeking to duplicate several aspects of the zone of proximal development as audience members seek out streams at their approximate skill level (Phelps and Consalvo 2020). Finally, in cultivating the communities around their streams, Adam and Chluaid are using the community as a learning tool (and vice versa) by engaging them in their own practice. Through engaging in an analysis of their actions relative to educational theory, numerous possibilities for the use of streaming as an educational platform emerge (Phelps, Consalvo, and Egert 2018).

Yet, there are dangers associated with live streaming that are at odds with both theory-based educational objectives and the practical goals of actual streamers, including elements of toxicity, racial, ethnic, and gender discrimination (T.L. Taylor 2018; Wohn 2019). There can be a higher than

expected rate of burn out, meaning that over time some streamers will give up streaming either for short breaks or often extended periods, particularly as the platform incentivizes individuals to stream almost constantly (Bowman 2017). Incidents of burnout are higher among women and minorities (Blackmon et al. 2019).

Furthermore, the notion of deliberate practice relies on a highly engaged learner and is often only optimal for 60–80-minute periods (North 2012). By encouraging streamers to engage in streams for longer and longer periods of time, the platform is working against itself as an educational medium, and in some sense against the core motivation for those engaged in streaming game development in the first place. Indeed, for professional development streamers, the platform is incentivizing them to engage in development practices that mirror some of the worst practices of development such as crunch culture and extended work hours.

Conclusion

This research presents a first step into investigating and better understanding how game developers are using Twitch to stream their creation process, how they use it as a potential site for co-creative design, and whether they engage in game talk and other elements of professional practice. The idea of live streaming as an opportunity to reach out to potential and actual players, alongside other developers, for feedback and support as well as sociability and accountability, definitely merits further investigation. In particular, this study suggests that participatory communities are not only the province of game streamers, and that different types of streaming activities can change the size of the audience that streamers deem 'too large', 'comfortable', or 'too small'.

Developers themselves can both subtly or explicitly shape the type of feedback they want or do not want, through such efforts as creating statements that limit 'backseating' or through offering extensive documentation and answering as many questions as they can handle. Their efforts are further shaped by the size and type of their viewership. Adam had a significant number of skilled coders in his audience that he interacted with regularly. Chluaid had a greater diversity of viewers, with less back and forth in his stream concerning how he should deal with various elements.

This research also demonstrates another viable outlet to study and better theorize the processes that game developers employ in their creative work. Streaming offers another angle for understanding the complex work of

game development. There are synergies between the practices emerging on Twitch and the educational practices surrounding game development as a field, and these are not only worthy of further study but are potentially convergent as universities find themselves engaged in exploring how to deliver educational experiences at a distance. Core affordances of the platform may be of potential interest to both educators and practitioners alike, but there are also elements that must be carefully considered in such contexts.

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7. Unity Production: Capturing the Everyday Game Maker Market

Chris J. Young

Abstract
The production of games using 'free' and accessible all-in-one game engines dominate the market for the development of game products and services. This shift has consequently 'opened' production to what I name everyday game makers, who share multiple professional and leisure-based game making identities, and 'closed' development behind platform governance policies, proprietary technical requirements, and multisided market strategies. I examine the local and global strategies of Unity Technologies and how game makers 'make do' with its production platform tools in developing digital games. I argue strategies of companies like Unity Technologies constantly transform and tailor its production platforms to the local norms and practices of everyday game makers through its desire to capture a larger market share of the global game industry's creative production sector.

Keywords: game industry, cultural workers, everyday game makers, game production, platforms, scenes

What do *Super Mario Run* (Nintendo EPD 2016), *Hearthstone* (Blizzard Entertainment 2014), and Microsoft's *Ori and Blind Forest* (Moon Studios 2015) have in common? They were all made with the Unity production platform. Since its 2005 release, Unity has expanded from a game engine, or a suite of tools for making digital games, to a real-time 3D platform for rendering photo-realistic animations, graphics, and models in an array of digital design contexts. According to Unity's private corporate owner, Unity Technologies, what began as an engine to 'democratize game development' (Higgins 2010) has expanded into a platform to 'democratize development' ("Unity Public Relations Fact Page" n.d.) across a growing range of sectors

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that utilize 3D design and visualization. Today, Unity is used to build over 50 per cent of all mobile games, which represent approximately 35 billion of the 137.9 billion USD game industry (Wijman 2018). Underscoring Unity's spread, 'Unity Developer' is currently the seventh fastest-growing job in the United States, and the fastest-growing job specific to a digital platform (Bowley 2017). Little known outside tech circles, Unity has rapidly become the go-to platform for real-time 3D developers around the globe.

In 2009, Unity was the first professional game engine company to release a free licence to game developers (Helgason 2009). This strategic decision allowed Unity to access and spread through emergent indie developers and hobbyists building apps for Apple's App Store and Google's Play Store. Over the next decade, Unity Technologies experimented with subscription revenue models to capture a percentage of developer income based on their profits. As of January 2020, Unity requires developers to purchase a Unity Plus licence if they make over 100,000 USD and a Unity Pro licence if they make over 200,000 USD for $40 and $150 per month respectively (Unity Technologies n.d.). Unity provides additional features to licencees, such as analytics and reports, a customizable splash screen, and source code access, which are desirable for companies looking to customize Unity to their industry needs. Between 2016 and 2017, Unity Technologies' valuation increased from 1.5 billion USD to 2.6 billion USD, which reflects the company's ascendance as a dominant production platform (Haggin 2016; Merced 2017). In a short time, Unity has become an indispensable backstage actor in game production and the contemporary platform economy.

The production of games using 'free' and accessible all-in-one game engines dominate the market for the development of game products and services. This shift has consequently 'opened' production to what I name everyday game makers, who share multiple professional and leisure-based game making identities, and 'closed' production behind platform governance policies, proprietary technical requirements, and multisided market strategies. These game engines have become platforms that are part of a wider digital production ecosystem, which shape how games are developed, monetized, and accessed. A transition to an indie culture of 'anyone can make a game' is made possible by the abundance of free game engines to produce games, particularly the Unity platform, which controls 45 per cent of the global game engine market and is used by 47 per cent of game developers worldwide, according to Unity Technologies ("Unity – Fast Facts" 2016). I examine the local and global strategies of Unity Technologies and how everyday game makers 'make-do' (Certeau 1984) with its production platform tools in developing digital games. I argue the strategies of companies like

Unity Technologies constantly transform and tailor its production platforms to the local norms and practices of everyday game makers through its desire to capture a larger market share of the global game industry's creative production sector.

A case study of Unity, this chapter contributes to scholarly and public debate about the increasing power and contentious politics of digital platforms. To date, scholars have focused on the dominant platform quintet: Google, Apple, Facebook, Amazon, and Microsoft (Dijck, Poell, and Waal 2018; Gillespie 2018; Moore and Tambini 2018). However, the less visible but pervasive impact of production platforms, which build digital content, of which Unity is an exemplar case, have received scant attention (Foxman 2019; Lesage 2015; Nicoll and Keogh 2019; Whitson 2018; Young 2018). My research encompasses the socio-technical history of the Unity engine, Unity's corporate strategies and promotional culture, and the culture of production and labour practices of everyday game makers through the lens of the local game development scene in Toronto.

Everyday Game Maker

Since the Apple App Store opened in 2008, two critical developments have emerged within the game industry: more game engines and tools are available for creating digital games, and more platforms are available for distributing those games. A game engine is the 'pipeline' for the assets that go into a game. These assets can include images, graphics, music, sound effects, animations, and writing. Game engines provide graphical user interfaces (GUI), such as editors, that streamline the process of putting assets into a digital game. These editors are designed to simplify the process of game production for game makers. For example, the game engines GameMaker Studio and Stencyl require minimal to no programming experience to build a 2D game because their editors allow game makers to 'drag and drop' assets into their digital environment. In contrast, the Unity Editor and Unreal Engine 4 provide more sophisticated and customizable editors, which require programming experience in C# and C++ respectively to build 3D games. Each of these game engines provide their own editors to enable game makers to build specific types of games – whether it's a 2D platformer on GameMaker Studio, a 3D first-person shooter on Unity Editor, or interactive fiction on Twine. The important issue for contemporary game makers is that they have access to an abundance of game engines, which have not only simplified the process of making games but are also available for free or at low cost.

This trend has led to the emergence of everyday game makers (Young 2018). These everyday game makers include professional game developers, independents or 'indies', modders, user-generated content creators, and writers of interactive fiction. Essentially, if a creator generates, modifies, or creates a digital game, or participates in the modes of digital game production, they are an everyday game maker. This means that everyday game makers emerge from all walks of life, including underrepresented demographics within discussions of the game industry, such as youth, and workers that do not typically fall within traditional definitions of game developers, such as freelance workers and commercially unsuccessful independents. The thread that ties these game makers together across work and leisure contexts is they are all using the same game engines, products, and services to build their games.

Everyday game makers participate in a wide range of work and leisure activities to learn, modify, and make games. Their motivations for participating in these wider leisure activities can include: learning skill-sets to broaden their professional responsibilities; experimenting with new digital tools to work for a different company; or designing a mechanic in an unfamiliar genre to push the limits of digital game knowledge. Simply put, everyday game makers want to make games regardless of the context in which they make them, and sometimes, making games in leisure contexts is the only way they can satisfy this creative itch.

Scenes

I use Will Straw's (2004) notion of 'cultural scene' as my theoretical framework to capture the diverse places in which game makers develop their games. According to Straw, 'scene designates particular clusters of social and cultural activity without specifying the nature of the boundaries which circumscribe them' (2004, 412). Cultural scenes can be situated by location (e.g. Toronto's Queen Street West), genre of cultural production (e.g. Unity Connect online), or social activity (e.g. game jams). A cultural scene 'invites us to map the territory of the city in new ways while, at the same time, designating certain kinds of activity whose relationship to territory is not easily asserted' (Ibid.). Cultural scenes thus become important centres of activity to locate a range of cultural norms and practices in different contexts, such as game making organizations, social media spaces, and game engine communities.

Sara Grimes (2015) researched the *LittleBigPlanet* (Media Molecule 2008) scene, a video game, which allows members to create levels with their

do-it-yourself game creation tools and share their user-generated content to the wider online community. Grimes investigated how scenes can develop alongside corporate enterprises and emerge within *tethered* networks (Zittrain 2008), like digital platforms. As Grimes argues 'the "tether" does not merely tie the players to a particular technology or business model. It also works to embed and integrate the player-generated cultures and autonomous player practices back into the LittleBigPlanet brand' (2015, 393). As with most activities in the twenty-first century, materialities are shared between real-world and virtual environments. Game makers participate in local meet-ups situated in urban neighbourhoods and online spaces to experience the activity of game making. While the initial entry point to the scene is Toronto, game makers access information about the activities of their local communities through Facebook groups, following Twitter handles and Instagram accounts, and joining Slack channels. In many ways, online locations both complement the scene's geographical locations, and serve as additional entry points for aspiring or interested game makers to participate.

Platforms

My case study of Unity can be situated as a contribution to the emerging field of platform studies. Scholarship in this domain has focused on distribution platforms, such as social media (Gillespie 2018), game consoles (Montfort and Bogost 2009), and digital marketplaces (Langley and Leyshon 2017), revealing how platforms control markets and accumulate capital. However, platform studies scholars have yet to sufficiently examine what I call production platforms, such as Unity, which are relied upon to build the content for most distribution platforms. A few exceptions are Anastasia Salter and John Murray's (2014) study of Flash, Benjamin Nicoll and Brendan Keogh's (2019) and Maxwell Foxman's (2019) analyses of Unity, Jennifer R. Whitson's (2018) examination of game production software, and Frederic Lesage's (2015) investigation of Adobe Photoshop, which stand alone as critical examinations of the underlying influence of production platforms in building our digital, and, at times, material content. To address this gap, I draw on the critical political economy of media, an approach to investigating the ways in which media is produced, distributed, and consumed (McChesney 2000; Mosco 1996). Scholarship taking this approach focuses on issues related to market power and labour practices within digital media industries (Cohen 2016; Dyer-Witheford and de Peuter 2009; Jin 2015; Kline, Dyer-Witheford,

and de Peuter 2003) providing insights that will guide my effort to unpack how, and with what consequences, Unity has quietly become the game industry standard for game production and transformed global digital design workflows. Unity generates revenue by taking a percentage of the earnings made by Unity and Asset Store developers, charging advertisers per ad placement, subscription-based analytics and reports features, licensing products to resellers, and charging partners for developing computer-aided design tools for Unity. This 'platform ecology' (Schwarz 2017) enables Unity to control real-time 3D production and tether its developers (Zittrain 2008).

This chapter takes place against the background of a wider debate about the political economy of platforms, digital labour, and content creation and distribution. In his account of the political economy of platform capitalism, Nick Srnicek argues that platforms 'emerged as a new business model, capable of extracting and controlling immense amounts of data, and with this shift we have seen the rise of large monopolistic firms' (2017, 6). Digital platforms situate themselves as intermediaries that bring together customers, advertisers, service providers, producers, suppliers, and even physical objects. Simply put, platforms establish immense technical infrastructures to monopolize the markets for cultural production, distribution, and circulation of content (Helmond 2015; Plantin et al. 2018). Platform owners accumulate profits by charging users through a variety of revenue models. Addressing emerging concerns surrounding the 'platformization of cultural production' (Nieborg and Poell 2018), my aim is to generate new insights on how a small group of platforms shape the production, distribution, and circulation of digital content – in this case, games made using the Unity platform.

Methods

This chapter draws upon 41 in-depth interviews with nine participants and over 400 hours of participant observations recorded as field notes from 2014 to 2016 as part of a larger ethnographic study of game workers and the game development scene in the Greater Toronto Area, Canada. Canada is in the global top five in terms of employment numbers in the game industry, with Toronto the home to dozens of indie and triple-A studios developing games for mobile and console platforms (Nieborg, Young, and Joseph 2019). Within Toronto there is a vibrant community of game makers who participate in game jams, meet-ups, and socials, which make the scene an ideal place to learn, network, and make games for the global industry (Young 2018). I interviewed nine game makers three to five times over two years to follow

their game maker careers and understand how they used industry tools and resources to create their games during different stages of the game making process. I recorded multiple interviews with fewer participants rather than one interview with more participants because the goal of the project was to follow game maker s through the process of making digital games. All participants are referenced under pseudonym names in this chapter to protect their identities.

Throughout my ethnography, game makers self-identified as game developers, designers, and indies. I analyse the 'moveable feast' (Hall 1992) of cultural identities experienced by my participant game makers as they created their games; meaning, how game makers' identities are formed and transformed continuously in relation to the ways they are represented or addressed in the cultural systems which surround them. While most of these game makers worked within the wider game industry as full-time, part-time, and freelance workers, they also participated in a range of leisure activities such as game jams and home-based projects, which supplemented their skillsets and enhanced their professional aspirations.

One-on-one interviews were recorded in person and, sometimes, over the phone when a participant had moved to another city for employment and career opportunities. Interviews followed a semi-structured protocol and lasted between 60 and 90 minutes, which included topics on participants' career backgrounds, education and training, experiences and aspirations, tools and resources, working conditions, activities in the scene, and perceptions of the local and global game industry. I participated in 71 activities recording over 400 hours of field notes at speaker and micro-talk events, workshops, online and in-person discussion groups for game makers, social gatherings, game jams, social media scenes, and collaborative coworking spaces. This fieldwork is contextualized by a critical discourse analysis of Unity Technologies' platform ecosystem of editors, tools, and resources, as well as news sites, developer forums, and unofficial documentation sites such as *Pixel Prospector* and *Gamasutra*.

Global Strategies

The overall corporate strategy for Unity Technologies is to 'democratize development', and in the case of everyday game makers, to 'democratize game development'. Unity Technologies implements this strategy through a variety of global and local strategies. In this section, I focus on a handful of global strategies to highlight how Unity Technologies captures the

everyday game maker around its Unity platform: 1) the all-in-one Unity Editor; 2) the Asset Store; and 3) Unity's extensive online training and documentation found in Unity Learn, Unity User Manual, and Unity Connect.

Unity Technologies claims Unity Editor is an all-in-one game engine because it enables game makers to produce their game almost entirely within its platform. David Nieborg and Thomas Poell (2018) discuss the platformization of cultural production where cultural commodities are increasingly contingent in nature; meaning, they are modular in design to enable continuous updates through datafied user feedback. During my fieldwork, and the years since, Unity added critical features to their Editor, which enhances production performance for game makers. Many of these features can be categorized into technical editor updates (e.g. Audio Editor), multiplatform distribution ports (e.g. iOS), administrative and productivity upgrades (e.g. Unity Cloud), and commercial applications (e.g. Unity Analytics).

During my fieldwork in March 2015, for example, Unity Technologies released Unity 5, which was a major version update to the platform. Unity added audio design tools, WebGL support, Unity Cloud, and Unity Analytics, which are now core features of the Unity Editor. Over the next year, Unity added additional features to these core infrastructures, including Unity Collaborate as part of the Unity Cloud in its 5.4 update in March 2016. Unity Collaborate was released for game makers to share builds of their games with collaborators or employees to avoid using other cloud-based systems for version control. My participant George used GitHub for version control before Unity Collaborate was released and lamented its inability to handle large assets like 3D environments,

> Git[Hub] is very, very good, but it's very, it's better for code then it is for everything in Unity [...] When you start changing scenes and pre-fabs and stuff like that, if two people are changing it at the same time, it becomes a very big pain to merge and Git[Hub] doesn't really work well with big binary files like big texture files... existing version systems like Git[Hub] are not very good for keeping those big assets, big set of files, big texture files properly saved (Interview 3, May 2015).

GitHub is a cloud-based development platform for hosting a variety of digital project files. The platform has a steep learning curve with a target audience of programmers who want to share their code with collaborators. For everyday game makers, who may not have a developer background, this

meant learning another platform in addition to Unity. Unity Collaborate mitigated this additional work process by streamlining the synchronization of data between versions so game makers need not worry about merging and rebasing their entire game project. Essentially, Unity Technologies does not want game makers to be using another tool or production platform for their work process.

The Unity Asset Store provides game makers with a variety of assets, which include 3D models, 2D images, animations, sounds, and templates to streamline game production. Unity Technologies provides their own free assets and allows third-party vendors to sell their own products while Unity retains 30 per cent of every asset sale. Most game companies will have their own asset creators on staff, such as artists, graphic and sound designers, but most game makers cannot build all their game's assets themselves. On several occasions, I participated in game jams, sometimes with my participants as a team member. Even with the diverse skills and experience of our team we had to rely on prefabricated assets on several occasions from the Asset Store. At ROM Jam 2015, an annual game hosted by the Royal Ontario Museum, my team found a Game Jam Menu Template released as a free asset by Unity Technologies. The editable template enabled the team to quickly create Start, Options, Credits, and Quit buttons for players to navigate the game's menu. Such free templates not only reduce production time for game makers under the pressure of a 24- to 48-hour game jam, but also further embed game makers into the wider Unity platform beyond the Editor.

Another strategy through which Unity Technologies embeds game makers is through its extensive array of developer documentation and community ecosystem: 1) Unity Learn, where game makers build projects, watch video tutorials, and take technical courses based on their learning needs, which can lead to Unity certifications for professional development and career opportunities; 2) Unity User Manual, which provides extensive documentation for all the features of the Unity Editor, including step-by-step guides and walkthrough examples; and 3) Unity Connect, for users of Unity to troubleshoot technical issues, join community groups, showcase projects, and post Unity developer-based jobs. My participant Cameron summarizes some of the main benefits of this wider platform learning ecosystem,

> [When] people are making complete tutorials, they don't always have the time to go into those best practices on specific stuff. Unity does, however. Not only does it have the scripting API, which is this big

> wiki you can search, but also it has like five-minute video tutorials for almost every interesting function that you can call on their website in the learning section. And they have five-minute tutorials on every UI component, every facet of the UI, all the stuff about how to make your own editor components, all the interesting stuff that people don't talk about sometimes is really helping me a lot… like when you learned the terrain stuff you didn't know what you needed to learn but you watched this terrain video and now you know so much other stuff that helps you put together lots of games really fast (Interview 5, October 2015)

At TOJam 2015, I used the Terrain Engine in the Unity Editor to build a 3D environment for our game, which included hills, trees, and other geological elements. Before the game jam, I had limited knowledge of Unity, let alone the Terrain Engine. At the beginning of the game jam, Cameron sent me a weblink to one of Unity's Live Online Training Sessions, where participants join an interactive live-stream to learn different features of the Unity Editor. I missed the original live-stream for the Terrain Engine, but the recording was uploaded to Unity's website. Within a few hours, I had built our own game's 3D terrain map and could customize its geological features to our team's design.

The ability to rapidly develop games without learning a variety of other skills is a major selling point and strategy for Unity Technologies in their bid to 'democratize game development'. Game makers have the ability to customize the Editor if their game projects require it, but for most game makers having the option to plugin specifications while playtesting for immediate feedback is a desirable feature, which the Unity platform excels at. Right now, if you were to go to Unity's website you could potentially make a game within a few hours having limited to no game making experience, because Unity provides the tools, the editors, and the documentation to streamline game production. This wider 'platform ecology' (Schwarz 2017) is the key global strategy for how Unity Technologies tethers (Zittrain 2008) these game makers to its production platform. Game makers, in most cases, have to 'make-do' (Certeau 1984) with the game tools and resources at their disposal because they do not have the finances, time, and skills to develop complex production systems to make games. Unity Technologies capitalizes on this limitation and 'democratizes game production' by enclosing game makers within their technical, governed, and monetized 'walled garden' (Srnicek 2017), which simultaneously controls the labour and production process of game makers.

Local Strategies

Many of the strategies outlined above are comparable to other production platforms in retaining users behind their walled, fully controlled 'gardens'. What sets Unity Technologies apart from their competitors are their recruitment strategies in local scenes. I found there were a handful of local strategies in how Unity advertised, recruited, and customized game production experiences for game makers: 1) placed a regional officer and recruited community managers and influencers; 2) co-hosted talks, demonstrations, and workshops; 3) hosted a Unity Roadshow event across multiple scenes including Toronto; and 4) sponsorship of local events with free swag.

Unity was the first game engine in Toronto to have a meet-up organized for the purposes of connecting game makers. Named Toronto Unity Developers, the meet-up describes itself as '[…] a group for Toronto based developers interested in the Unity3D game engine. Developers, artists and designers of all skill levels are welcome. Learn from professionals and be inspired by independent game developers' (Toronto Unity Developers n.d.). Founded in 2013, the group holds its meet-ups at the independent mobile game studio, Uken Games. Founded in 2009, Uken has developed over a dozen commercially released mobile games with the Unity platform for iOS, Android, BlackBerry, Windows Phone, and Facebook, employing over 50 game workers. Uken and Unity Technologies co-sponsor the meet-up, which provides publicity for Uken as a facilitator of the scene, and an opportunity for Unity to expand its reach into the Toronto game maker scene. By the end of my fieldwork, the meet-up claimed 1425 online members, though anywhere from 50 to 100 participants attended any given event. The meet-up itself was held infrequently over the year, varying between a month to several months apart. The format for the meet-up typically involved an introduction by one of the co-organizers, followed by several presentations from guest speakers, and a post-talk social where game makers had the opportunity to show-off their Unity-made games-in-progress. The post-talk social was particularly interesting, especially if it fell shortly after a game jam (usually sponsored by Unity Technologies) because most attendees would have recently made a game with Unity.

In 2015, Unity held its annual Unity Roadshow where they travel around the globe, particularly in the United States, providing full-day introductory workshops to the Unity Editor and its wider production platform in selected cities ("Events – Roadshow" n.d.). On 6 June 2015, the Unity Roadshow visited Toronto and held an overview workshop where participants learned the

basic functionality of the Unity Editor and created a predesigned game project ("Unity 5 Roadshow – Toronto – Limited Availability" 2015). Held in a conference room at the Toronto Metro Convention Centre, the workshop hosted approximately 200 aspiring game makers. At the workshop, the instructor made an interesting comment when he explained that numerous game makers would use Unity's prefabricated assets to release games on the Apple App Store and Google Play Store without making any modifications to the predesigned game. The Unity instructor even went so far as to say, 'plagiarize all you want!' (Field notes, 6 June 2015). This gift economy approach emphasizes how companies, like Unity, establish networks of globalized and localized game makers to embed their platform ecology of tools and resources within communities of cultural production. Unity has been particularly successful with this approach as most game makers in the scene predominantly used Unity over other game engines. Though Unity Technologies is one of several game engine companies, its ability to foster online, as well as urban, scenes has established it as the primary production platform for aspiring game makers in Toronto.

Two days before the Roadshow workshop on 4 June 2015, a Unity Roadshow coordinator, presented to the meet-up some of the new features of the Unity Editor in their 5.1 update. Most attendees did not participate in the Unity Roadshow workshop because they are generally more experienced with Unity, and do not likely require an introductory overview to the Editor. However, the session at the meet-up was far more technical than an introductory workshop. The coordinator discussed their new feature for streamlining virtual reality (VR) and augmented reality (AR) production, such as games for the Oculus Rift, Samsung Gear VR, and the HTC vive, to name a few. Many game makers at the meet-up had already experimented with various VR and AR devices within Unity, and were particularly interested in the new streamlined pipeline, which would potentially reduce their time and labour making VR/AR-based games. At previous meet-ups, several game makers had brought in some of their VR/AR games for the post-talk social where other game makers could playtest their in-development games. Though other 5.1 features were discussed, the talk from Unity to the meet-up revealed how they establish networks to not only communicate with game makers, but to also address issues relevant to game makers in their updates. As many of these game makers spend countless hours of labour building plugins and various workarounds to develop their games for VR/AR-based technologies, Unity's presentation to the meet-up also revealed the company's ability to tailor their presentation to the needs of the local community.

Conclusion

What has set Unity Technologies apart from its competitors is its ability to tap into local scenes and tether its platform ecology to everyday game makers' game production. Most game engine companies target developer studios with specific industry needs and budgets, such as Epic Games' Unreal Engine 4, which was used to build the high-grossing games *Fortnite* (Epic Games 2017) and *PlayerUnknown's Battlegrounds* (PUBG Corporation 2017). Unity Technologies not only developed a contingent production platform to meet the needs of game makers from hobbyist to indie and AAA, but they actively targeted and embedded themselves within these diverse professional and leisure-based communities. While Epic Games and other companies have employed similar strategies in Toronto and elsewhere, Unity Technologies was the first company to release a free licence of their game engine directly to game makers. This masterstroke has given Unity Technologies an insurmountable advantage, which has made it difficult for competitors to break Unity's tether to the everyday game maker market.

Unity's slogan 'democratize game development' means providing all the tools, editors, and documentation to produce games within their walled production platform ecosystem. What makes Unity a production platform is how it continually updates its technical infrastructure, governance policies, and monetizes production features to prevent game makers from using other resources and tether them to Unity to make their games. But Unity is not a complete, walled garden, yet. Game makers can still import their own assets, such as graphics created in Adobe Photoshop and sound effects produced in Apple's Logic Pro, and use other game production services, like Google Analytics and GitHub. However, Unity Technologies is closing the walls around these open gates. Unity's Live Online Training Sessions are no longer free and are now part of the subscription service for Unity Plus and Pro users. GitHub has developed a plugin GitHub for Unity, available exclusively through the Asset Store, to streamline Git operations for game versioning. Unity has acquired several companies to expand their platform's operations, including Vivox for Unity developers to build communication services, such as instant messaging and voice chat, in their games. While I have found game makers 'make do' with the tools and resources at their disposal, they are also increasingly tethered to the contingent nature and expansion of production platforms as it creeps into the work processes and industry standards of game makers.

Unity Technologies began as a company with the goal to streamline ports of game production to numerous distribution platforms, like Nintendo,

Microsoft, and Sony – hence, the name 'Unity'. As Unity Technologies shifts to 'democratize development', the company increasingly supports other industries, including film and television, architecture, construction, and automotive industries for real-time 3D visualization. While this chapter has focused on how Unity has successfully developed global and local strategies to recruit and retain the everyday game maker, it reveals a path to how Unity Technologies will capture the cultural workers of other industries that require 3D real-time visualization production. Indeed, Unity is a prime example of how game production more broadly 'contributes to digital transformations of work production well beyond the scope of the game industry' (De Peuter and Young 2019, 752). The impact of Unity Technologies' competition and market dominance is beginning to spread far beyond the game industry, and the company's reach into other sectors can be, quite literally, shaping the way we see the future.

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8. More Than One Flop from Bankruptcy: Rethinking Sustainable Independent Game Development

John Banks & Brendan Keogh

Abstract
Since the mid-2000s saw runaway videogame successes created beyond the traditional studio paradigm, 'indie games' have received increased attention from distributors, console manufactures, documentary makers, festival organizers, and, crucially, a new generation of game makers looking for alternative career trajectories. However, very few indie games are commercially successful, and even fewer are followed up with a second commercial success. In this chapter, we draw from ethnographic research with Australian video game developers to unpack the myriad challenges indie game developers grapple with as they strive for sustainability. Many developers, despite deploying the language of tech start-up culture, were less interested in 'growth' and 'profit' than they were in simply being able to keep the team together to make the next game.

Keywords: game industry, indie, sustainability, Australia, game development

Since the mid-2000s, runaway independent video game successes created beyond the traditional studio paradigm – such as Jonathan Blow's *Braid* and Mojang's *Minecraft* – have received increased attention from distributors, console manufactures, documentary developers, festival organizers, and, crucially, a new generation of game developers looking for alternative career trajectories and ways to pursue the craft of making video games. However, despite the much-rehashed stories of independent celebrities striking out on their own, having their hard work and vision pay off with millions of dollars, very few independent games are commercially

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successful. Moreover, very few of those success stories are followed up with a second commercial success. The independent game landscape is littered with one-hit wonders. Despite its increased popularity, independent game development remains a precarious proposition with very few independent game developers able to convert their practices into sustainable and long-term businesses or careers.

In this chapter, we consider what it means to be a 'sustainable' independent game developer. 'Independent' and 'indie' are strategically useful labels that capture a wide range of identities, ambitions, genres, and business models (Lipkin 2013), but here we are primarily interested in the common need of this spectrum of independent creators to find ways to sustain game development activity without the safety nets possessed by large multinational corporations. Over the past decade, independent game developers have implemented a range of strategies to increase the likelihood of their work becoming sustainable over the long-term. This includes developing sequels instead of new titles, signing up with independent publishers, transitioning from a release model to an ongoing games as service model, or balancing more reliable contract work with time spent on producing original intellectual property (IP). For other game developers, sustainable game making means rejecting game development as a commercial endeavour entirely, to instead undertake it as a hobby alongside a more reliable day job.

Nearly fifteen years since the first indie game success stories, shifts in video game production and distribution models, as well as the broader global economy, have made independent avenues of game development attractive to a range of different people in different local contexts. As such, the strategies deployed to undertake these practices in a sustainable manner constitute a crucial site of inquiry for game production studies. In this chapter, we draw from ethnographic research with Australian video game developers across a number of research projects to unpack the myriad, dynamic, and reflexive strategies independent game developers deploy and the shifting challenges they grapple with as they strive for sustainability. Between 2014 and late 2015, John Banks conducted semi-structured interviews with 22 developers from seventeen development studios in Brisbane, Melbourne, and Sydney focusing on the changing conditions of production cultures confronting Australia's video games developers (J. Banks and Cunningham 2016a). Between 2018 and 2020, Brendan Keogh conducted approximately 150 semi-structured interviews with Australian game developers, with a primary focus on creative identity, ambition, and skill transferability. A number of developers spoke to both John Banks and Keogh, and by comparing these

interviews we show how understandings of sustainable game development have shifted over time.

Our empirical focus allows us here to foreground the importance of local context within which game development happens. Our interviewees' responses are very much shaped by the particularities of the Australian video game industry and broader social and regional context, including particular government policy interventions at both State and Federal levels, a withdrawal of large multinational publishers, and a relatively strong (albeit weakening) social welfare net. Following the Global Financial Crisis (GFC) in 2008, extensive studio shutdowns saw the Australian industry transition to a near-exclusively independent industry. As John Banks and Stuart Cunningham observed in the wake of these shutdowns:

> The recent history of Australian videogames production is a story of great destruction of jobs, companies and value accompanying a move away from the fee-for-service model, but which, at the same time, has seen the reassertion of games developers' core professional identities, significant experimentation with a range of business models and an emerging, productive diversity of developer and industry cultures [...] (2016a, 128).

In the years since, as detailed by Keogh (2019), a fledgling homegrown industry has emerged that now encompasses a variety of innovative and precarious business strategies, workplace cultures, and a spectrum of formal and informal game developer identities. In the vacuum of AAA development studios, Australia exposes a great spectrum of ways that independent video game developers navigate notions of identity, creativity, craft, and labour as they strive for a model of sustainable video game development with limited resources.

Just as Jennifer R. Whitson, Bart Simon, and Felan Parker (2018) discovered among Canadian indie developers, many developers spoken to in our respective projects, despite deploying the language of tech start-up culture when speaking publicly or seeking investment, are less interested in growth and profit than they are in simply being able to keep the team together to make the next game. One developer we interviewed in 2018, for instance, when asked if he felt his business was sustainable, answered, 'Well, we're more than one flop from failure.' This speaks to a disconnect between popular narratives of independent video game development as an entrepreneurial start-up activity, driven primarily by the accumulation of wealth, and the more modest articulations of ambitions by many independent developers

of simply being able to continue supporting their creative work. By engaging with developers' own articulations of their commercial and cultural ambitions over time, we challenge game production studies to consider the diversity of identities and modes of production encompassed by independent development in the midst of the global and local structural conditions of cultural production that shape those identities.

The Australian Independent Video Game Development Context

While many of the experiences of the independent developers we spoke to are similar to those in other regions globally, it is important to pay due regard to the specific and local industry and policy factors that contribute to shaping independent game developers' experiences of precarity and their ability to imagine sustainable practice. Recent important works, such as Aphra Kerr's (2017) *Global Game: Production, Circulation and Policy in the Networked Era*, speak to the importance of considering such local factors in the midst of the growth and restructuring of the global video games industry over the past decade (see also Fung 2016). The Australian game industry saw massive contraction following the GFC. The local industry had built itself up to be dependent on contracts from foreign publishers, and this became unsustainable following global economic shifts that saw the Australian and US dollars hit parity (J. Banks and Cunningham 2016a, 2016b). Between 2007 and 2012, the industry shrunk from 1431 to 581 employees (Australian Bureau of Statistics 2012). By 2014, the Games Developers Association of Australia (GDAA) characterized the industry as composed of some 200 formally registered businesses, of which 92 per cent were considered to be independents: small-scale enterprises of up to five developers generally concentrating exclusively on original IP and publishing via digital platforms such as the App Store, Android, and Steam. Unlike North America, where the independent identity was a way for developers to strategically position themselves as *not* the mainstream large-studio industry, in post-GFC Australia the independent identity instead disguised a lack of choice: if one was to make video games, doing so independently was for many the only option.

Since this drastic restructure of the local industry, a number of small Australian teams, working in varying degrees of formality, achieved breakthrough success through Apple's App Store. *Flight Control* (Firemint 2009), *Fruit Ninja* (Halfbrick 2010), and *Crossy Road* (Hipster Whale 2014) were all massively successful, and each company responded to this success in

different ways. Firemint and fellow Melbourne independent studio Iron Monkeys were bought and merged together by EA to form Firemonkeys—one of the only large, foreign-owned studios in Australia, now employing approximately 150 people. Halfbrick remained independent but quickly scaled to a large size, before retracting again in recent years after a failure to repeat *Fruit Ninja*'s success. Hipster Whale, meanwhile, has deliberately remained small, approximately ten people, working on contracts for large companies such as Disney, and reinvesting in other small Australian teams including PrettyGreat, itself formed from designers that left the struggling Halfbrick.

Many of the game developers John Banks and Cunningham (J. Banks and Cunningham 2016a) interviewed in 2013 to 2015 held up this (at the time recent) drastic restructuring of the industry models as offering a kind of independence in the form of creative autonomy from the 'old' model of contract work for foreign publishers. Australian game developers were now making games on their own terms and retaining IP, rather than crunching on uninspiring 'catalogue fillers' for foreign publishers. The industry began to articulate shared goals of solidarity and collectively building a sustainably independent Australian game industry. Many game developers that transitioned into independence from the pre-GFC industry, including Morgan Jaffit of Defiant Development and Trent Kusters of League of Geeks, emphasized a sense of pride that they were still making games and indeed building studios over which they enjoyed creative control and autonomy, and which were also enabling others to enter the industry through employment or mentorship. In 2016, Kusters commented that the independent video game development scene that had emerged especially in Melbourne was one that while seeking commercial sustainability was now also marked by fostering a cultural and indeed critical discussion about video games. Jaffit, meanwhile, emphasized the goal of building off Defiant's success to grow other viable and sustainable studios over a long-term that could provide jobs and training for emerging developers (J. Banks and Cunningham 2016a). At the time Jaffit said, '[t]he whole reason I've got a company is so that we can employ the talent that is in Australia and hopefully have the bit of the industry we've got impact on in (sic) a better place than it was when we came along.' At this point, sustainability for Australian game developers was articulated as a pride that any Australian studios were still finding a way to make and commercially release games: sustainability became about collective survival rather than individual success.

The sense of solidarity and interest in supporting the local industry remains pronounced in Keogh's 2018 interviews with both Jaffit and Kusters,

as well as with other developers across Australia. The GFC persists as a mythological origin story for why 'we're all in this together,' even for those younger newcomers who did not experience the extensive layoffs of the time. The ongoing lack of Federal government support or interest from global publishers in setting up base in Australia continues to ensure that independence remains the sole path forward for most developers. These very real structural constraints while not determining most certainly impact on these particular articulations of game developer identity.

Notably, these developers were far from naïvely optimistic in their expectations. Kusters and Jaffit, in both 2014 and 2018, described the struggle of keeping studio doors open while dealing with the constant changes in business models, opportunities, and shifts in the global industry. Indeed, in the time since our last interview, Jaffit's studio Defiant Development closed its doors from July 2019 after failing to obtain investment for a new project. The Australian industry continues to be characterized by precarious and unpredictable work conditions even as Australian developers express a pride in the creative independence that was somewhat imposed on them. While the structure of the local industry had profoundly shifted towards independent development, if anything the issues associated with uncertainty and sustainability have only intensified.

Asserting Craft and Making Games as a Sustainability Value

Many independent Australian game developers, returning to the similar point made by Whitson, Simon, and Parker (2018), distance themselves from the language of growth, entrepreneurship, and profit, instead focusing on notions of creative autonomy and community. A question here, though, is are these discourses simply a way for Australian game developers to make a virtue out of necessity? Have they identified the difficulty of building anything like a medium size sustainable studio as a business in Australia that might support jobs over a longer term and given up on that ambition? They are making do and continuing to make games by arriving at forms of collaboration and more distributed and ad hoc work models that enable them to continue making games and sharing the creative pleasures of doing so with their fellow developers and players without at the same time chasing what appears to them impossible ambitions of long-term commercial sustainability in the form of viable long-term jobs. But, in so doing, are many developers giving up on the goal of developing games as a form of work that can at least contribute to their livelihoods?

These questions and challenges connect to larger critical debates and research about work and labour in the creative economy. Angela McRobbie's important work *Be Creative* (2016; see also M. Banks 2007) establishes that the value of creativity and craft, 'the dispositif of creativity,' is very much about acclimatizing youthful urban middle class to a future of precarious and individualized work without the various hard-won entitlements and security won through the post-war period of labour struggle. Similarly, Kate Oakley (2014) has critiqued the very notion of 'entrepreneurism' as a romantic reframing of precarious work conditions into one of self-determined adventure. For Oakley, *forced* entrepreneurship is how 'people in rapidly changing industries adopt worsening working arrangements,' and this 'lies behind much of the growth in entrepreneurship in the cultural sectors' (2014, 149). Self-described indie game developers in Australia, individually taking on board the risks of creative production in the absence of any opportunity to acquire stable employment, personify a form of soft capitalism that seems at once both inevitable and individually fulfilling.

As McRobbie (2016) points out, underlying this forced entrepreneurship is a dispositif of creativity that places all the risk on these mostly young people by holding out an unlikely promise of 'making it', of being able to one day reap the rewards of creativity without having to ask the hard questions about sustainable livelihoods. McRobbie draws on Isabell Lorey's *The State of Insecurity* (2015) to convincingly argue that 'the imperative to be creative' functions as a form of governmentality that almost compels cultural workers to give up the goals of normal and secure employment and associated rights while accepting or coming to terms with widespread insecurity. This is particularly relevant for how Australian independent developers seek to articulate and describe their coming to terms with these conditions as the '[…] paradox at the heart of this precarization process, which is that the subject is promised freedom (to self-actualize) while also being subjugated to this normalization (and privatization) of risk and uncertainty' (McRobbie 2016, 15). The promise and allure of self-reward in terms of the autonomy to exercise a craft is not so much negated by the experience of insecurity, but is integral to the imperative to be creative. Far from being coercive, the very insecurity associated with such self-entrepreneurship becomes a positive part of the experience.

Among developers in Australia, we observed evidence for an emerging sense that pursuing the promise of craft and creativity was not just an *individual* entrepreneurial endeavour motivated only by self-reward. It is collective. Rather than this being only about a new form of entrepreneurial self-employment, it is also a new form of community building and mode

of organizing that is less about individual commercial success and more about cobbling together income streams and sharing resources. More than simply an accommodation of inevitable precarity, there is an emerging assertion of a different way of sustainably being a game developer in the form of these independent micro-enterprises. Asserting one's identity as an independent video game developer, in the absence of the traditional employers of the game industry, functions as a response to, and justification of, very real structural constraints and ongoing precarity. These emerging forms of community and ways of working are still searching for the language and organizational forms to express and distribute how to most effectively share resources and capacity so as to continue making games. League of Geeks provides an example of this with its distributed studio model in which while maintaining a continuing identity around a core group, it brings in other developers (programmers and artists especially) based on the stage and needs of a particular project. This enables them to keep the core team together, maintaining the studio identity, while also opening opportunities for other developers in Melbourne to contribute from time to time.

In the 2014 to 2015, interviews by John Banks and Cunningham, and the more recent 2018 to 2019 interviews undertaken by Keogh, while some interviewees boasted of their newfound (and forced) independence, another group emerged in the research who distanced themselves from the goal of jobs and revenue, considering this to be either an unrealistic and unachievable ambition or not fitting with their aim to keep developing games as a hobby. In each Australian city, there is now a broad ecology of game making identities that contest what it means to be independent: commercial studios; art collectives; mid-sized studios; scenes; and hobbyists (Keogh 2019). Subsequently, what it means to make games sustainable is also contested. For instance, some game developers were at times quite hostile to the proposal that sustainability necessarily meant establishing and growing a studio, with many pointing to the aggressive expansion and retraction of Brisbane studio Halfbrick as an example of a model to *not* follow. Indeed, some of the more durable Australian independent studios are those that remain at a modest size, even after commercial success, such as Hipster Whale, who have remained at about ten people despite the global success of *Crossy Road*, and House House, who have expressed an intention to remain a group of four even after the recent success of *Untitled Goose Game* (House House 2019). Both these teams are less interested in growing a larger development studio business, but instead

in 'keeping on keeping on' while also supporting the surrounding game developer community and industry in other ways such as collaboration, investment, and mentorship.

In the rest of this chapter, we briefly consider a few specific cases that illustrate the diversity of approaches developers are taking to navigate these various forces so as to pursue the craft of making video games and tackle the ongoing challenge of sustainability in quite different ways. This approach does not seek to erase the problem of sustainability and the precarity of work. Nor do we suggest that these various ways of coming to terms with these difficult conditions are necessarily ideal. They are often unfair and even exploitative at times. The video game industry, including the independent scene or field (Keogh 2019), also foregrounds ongoing and significant problems with diversity in terms of gender and age. In Australia, making games is largely an activity pursued by predominantly young men.

Articulations of Sustainability

Throughout this chapter, we have explored how, for many independent developers, sustainability simply means being able to keep on keeping on. For many, this does not simply mean being able to continue making games but, once they create a video game with the potential of economic success, to continue supporting and growing *that one game*. Exemplary of this is one of the studios we have already discussed throughout this chapter, Melbourne-based League of Geeks. Eight years after their 2011 founding, League of Geeks stands as the beaming icon of Australia's independent game resurgence, having grown from a small ragtag unpaid group working on the promise of future profit share to an approximately 25-person studio in 2018. In all this time, League of Geeks have only worked on one game, *Armello* (League of Geeks 2015). Rather than a one-hit wonder, however, *Armello* has been exemplary of what has come to be known as games as service, where a single game is perpetually updated and supported by a team over a number of years to retain an audience and steady revenue. A multiplayer digital board game, *Armello* has been updated with different characters, in-game items, and graphical updates.

For Kusters, speaking in 2018, the perceived unpredictability of the game industry was a major hindrance to sustainability. Rather than putting all their resources into a new, untested project, continuing to support and

upgrade a live game with a known playerbase 'creates more sustainability for us and gives us more control in that regard.' Kusters notes that, for League of Geeks, they talk about 'the three Cs':

> How do we as an indie studio make a game that is critically successful that we're all proud of, that is culturally going to push the medium forward because at the end of the day that is what motivates us, but then on that third spike of the trident, is it commercially viable and will it sustain us? As a creative I want to be creatively independent and to be creatively independent I need to really be financially independent, and so that's one of our major concerns here. How do we continue to guarantee our financial independence so that we at League of Geeks can remain creatively independent?

This juncture of critical, cultural, and commercial success is crucial to League of Geek's notion of sustainability. They are not simply making 'games for games' sake,' but nor is it simply a business venture. Instead, sustainable independence is found in the juncture of these ambitions. The tensions between them are not so much approached as an irreconcilable barrier to making games, but rather as a pragmatic challenge that currently defines the conditions of independent development.

League of Geeks has also contributed to the growth of other independent teams in the Melbourne community through several low-return investments. A small studio working on their first game, Paper House, received extensive support from League of Geeks to complete their first game *Paperbark*. A different studio, House House, had made their first game, *Push Me Pull You* (House House 2016) in a bespoke HTML-based engine, and League of Geeks helped that team apply to Film Victoria for funding in order to hire League of Geeks to convert the game to the Unity engine, making it more feasible to distribute the game on PlayStation consoles. 'Now that we're in a position to give back, we want to just [...] foster great talent because we believe in the medium,' Kusters explained. But beyond altruism, Kusters expressed a firm belief that supporting the local industry beyond League of Geeks was also good for business.

House House consists of four close friends. Following the critical success of *Push Me Pull You*, they developed the much larger project, *Untitled Goose Game*, which went on to become one of the biggest selling games of 2019 on the Nintendo Switch. In a recent interview with Australia's national broadcaster (ABC Arts interview, 20 October 2019), House House asserted

that they had no plans to scale up as a significantly larger studio despite this success, commenting:

> I don't think that now we've made a game which is successful, it means that we hire 50 more people and make a much bigger and more ambitious game. I think the thing we want to do is carry on making games together. I don't think we will move out of this little room here. We're cosy in here.

Particularly striking here, despite their commercial success, is a refusal to use the traditional games industry language of game developer, studio, and game development. They speak of making games together in a 'cosy room,' asserting a very different identity and associated values. While it is arguable that this in itself is asserting a form of cultural capital in the context of a games-as-art culture of the Melbourne indie scene, it would also be a mistake to reduce this particular articulation of culturally produced identity to such factors. It seeks to come to terms with the challenges of sustainability by voicing its own terms and values for developing video games.

Another Melbourne-based team to benefit (albeit indirectly) from League of Geek's support, is Ghost Pattern, a small team working on their first title, *Wayward Strand* (Ghost Pattern forthcoming). While a legal company called Ghost Pattern exists, it only technically consists of its founders, Jason Bakker and Russell Dilley. But Bakker likes 'to think of there being a collective that's working on *Wayward Strand* that is called Ghost Pattern.' This collective consists of 'a core team of six people and then we have about four or five collaborators we work with pretty consistently'; however, both this core team and peripheral collaborators are all working on short-term contract agreements, offered work and pay intermittently when it is available from government funds or other short-term revenue sources. While Ghost Pattern offers a profit-share arrangement, directly influenced by what League of Geeks used in its early days (and which Bakker was a beneficiary of), Bakker also ensures their team is also paid some amount of wage for their work:

> [...] it was awesome once *Armello* was a success because I get profit share payments every few months, which is super cool. But I didn't like the part of it which was working for the chance of future money. So, we've tried to strike a balance by offering a small amount of profit share alongside a wage that we try to make sure is as decent as we can make it.

However, at the time of our interview in 2018, while their contractors were being paid, both Bakker and Dilley were investing their own time and

resources into the project unpaid. We found this surprising, given Bakker's articulations about the importance of paying his own staff adequately. He justified it thus:

> I have limited time on earth and I should try to do this thing so I can feel like I've done it. So, I've taken this thing that I've been thinking about for years and years and actually given it a shot as opposed to in ten or twenty years thinking like 'oh what if I'd done that?'

Bakker was quick to point out the privileges he has that allowed him to take this risk, including a partner with a more stable income, and a lack of dependents. He also noted, however, that a source of support for the team is contract work that *he* was undertaking for other teams, most notably League of Geeks, where he had formerly worked as a programmer:

> because we have experience we're [Bakker and Dilley] able to charge a decent amount [when we're contracting] so that even though we're doing a couple of days a week that's enough for us to survive on and [...] we're also then putting some of the money we get from contracting into Ghost Pattern so we can get a little bit of other people's contract work [...].

For Kusters at League of Geeks, providing this work to Bakker and Tilley is both practical for League of Geeks, but also another significant way to support and grow the local community:

> We employ them whenever they're like 'we're a little bit low on funds can we come in and do some work?' because Jason used to be our lead developer. So, we're like 'yeah sure bring your mate and come and do the work'.

Ghost Pattern thus speaks to the complexities and interconnections of independent development in the local context, where the co-founders of a studio are also another studio's contract labour, and where the income from that contract labour is used to pay other contractors for their as-ethical-as-possible work on a dream game.

Ghost Pattern was not the only team we spoke to in 2018 undertaking contract labour for other teams so as to support unpaid work on their own intellectual property. For other teams, however, the balance between the two was rarely ideal. We spoke to a developer of a three-person team that will remain unnamed that, despite a number of game releases, has struggled

to have a breakthrough commercial success. Instead, contract work has been crucial just to:

> […] pay bills and shit because our own IP […] is not generating enough revenue to pay wages […] so it's a bit tough because the other two guys in the team are sort of right now especially doing a lot of contract work and part time jobs and keeping themselves afloat and I've been sort of keeping myself afloat on the side as well.

Like Ghost Pattern, the income of the individuals was fed back into the team to keep it afloat. However, whereas for Ghost Pattern this was articulated as a way in which the founders could pay and support others to work on their own dream game, for this unnamed team there was a clearer sense of self-exploitation, of needing to be a commercial game studio at any cost:

> I think we're still on the books as full time employees but when you're not doing [company] work there's not really an expectation to be paid from [the company] […] I do wages like once a quarter basically when it's getting to tax time. […] We have in the past run contract work and stuff through [the company] and that's been okay but because there are company overheads that we have to factor in to that it's harder to get the client work. Whereas it's easier to be like alright I'll do some sub trade stuff for the studio down the corridor […] so everyone just won't get paid from [the company] while I'm doing that.

For this developer, 'not even successful, just like sustainable' was the explicit, albeit still elusive goal:

> The goal is to just make something that can sustain the next thing to sustain the next thing and then hopefully get some growth. But shrinking or not being able to grow, having to redirect our time and energy into things that keep us sustained is draining.

Being able to 'sustainably' make their own games, instead of having to do contract work to 'sustain' themselves is the desire, but one that seems perpetually out of reach. Crucial here is the reminder that the most visible independent success stories are also the most exceptional, and the vast majority instead have this liminal existence where they aim for commercial sustainability, but never quite reach it.

For others still, the strive for commercial sustainability is a game best not played at all. Sam, a self-identified hobbyist game maker from Adelaide, is representative of many game developers we spoke to throughout 2018 who have decided to keep their game developer activity as a hobbyist craft, with little interest or strategy in commodification. Sam is a professional software developer with a computer science background who 'doesn't really connect' with the professional mode of making games since 'the games industry can be quite hostile towards femme people and queer people.' Here, Sam explicitly identifies concerns with the constitution and politics of the video game industry, and rejects them despite their own ongoing creative interest in creating games. Sam's ultimate goal is to 'be working part time in software to fund the stuff I do on my off time.' They are not simply assuming that their creative work could not be commercially feasible, but rather are explicit that they do not want it to be:

> I would almost not be content for it to financially sustain me because I feel like that also comes with a shift in how you view the value of your work [...] I feel like I don't ever want to be professionally doing what I'd like to do personally because I would just get burnt out and not do it.

The contrast between Sam's voluntarily non-commercial work, and the unnamed developer described earlier pouring energy and resources into his own company in the desire to obtain commercial sustainability could not feel more different, yet both in their own way are what the cultural work literature might consider self-exploitation. What this ultimately points to is that when considering concepts such as sustainability (or, similarly, success or exploitation), game production studies needs to be careful to acknowledge the plurality of experiences and identities and ambitions that *are* indie game development. What also needs to be considered are the various ways in which different developers negotiate the tensions and dissonances among these motivations, incentives, values and how they are structured by local factors including government policy interventions or lack thereof.

Conclusion: Rethinking Sustainability

In addressing the question of sustainability and what it might look like for video game developers, and in this specific case video game developers largely identifying as independent in Australia, the cases we have described suggest that it is important to pay close attention to developers' specific

values and motivations. They often have very different experiences and understandings of what making video games is and the future that they hope for and aspire to in terms of sustainability can also therefore be very different. In describing and accounting for these different understandings and aspirations the very real global structural constraints shaping these conditions of cultural production have to be taken into account (Kerr 2017). Dimensions of class, age, gender, and social background inflect the opportunity to even envisage what sustainability may look like let alone if it is even possible. As McRobbie (2016) points out, the values associated with asserting craft skills and identities are also thoroughly gendered; this is most certainly the case in making and distributing video games. These are complex questions that increasingly go to the very structures of global capital and the conditions of cultural labour. With the numbers of people now engaged in video game development and chasing the dream of commercial success, it is very unlikely that a significant number will make a living income from this pursuit. There are questions here for governments and for educational institutions running video games courses that continue to hold out the entrepreneurial promise of jobs as video games developers. This, though, is not new, or a dilemma confronting just video games. It is common to the creative sector generally; just ask photographers, musicians, and writers as they try to pull together a livelihood from their creative passions. This is now well researched and documented broadly across the sector, especially from media industries and cultural production researchers (M. Banks 2007; M. J. Banks, Conor, and Mayer 2016; Deuze 2013; Deuze and Prenger 2019).

After listening to the accounts of the developers' understandings of what sustainability might look like, perhaps one can start asking questions about quite different forms of work and labour than the ones from earlier modes of cultural production. Perhaps it means taking seriously those developers interviewed who almost resisted viewing what they do as work or labour at all. This is often a question about how resources and value, skills and capabilities are pooled and shared through collaborative and often informal distributed fields and networks so as to support making games. In the interviews undertaken for this research we identify different kinds of sustainability including: establishing and maintaining video games development as a viable commercial undertaking; as a craft and hobbyist undertaking with no ambition of employment or commercial outcomes and various mixtures of the two. However, we have also identified a significant articulation of sustainability as maintaining and supporting the vibrant community that enables game development to occur.

These emerging formations might not yet provide sustainable livelihoods for many and may exclude many others, but the experiments in organizing and sustaining collective video games development in these independent scenes still raise very real dilemmas in terms of how livelihoods can be secured for those video game developers that want to pursue that. Nevertheless, in asking these questions it is necessary to recognize and account for the diverse responses to these challenges as video game developers negotiate what it means to be independent and pursue the challenging goal of sustainability. The questions should include sustainability for *whom, where, and under what conditions*. How do video game developers understand sustainability? What values and motivations shape these understandings? What privileges and inequalities shape the pursuit or surrendering of sustainability in precarious and rapidly transforming conditions? Careful attention has to be paid to what these developers are doing on the ground and how they are responding by continuing to nevertheless make games.

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Publishing & Monetization

9. How to Study Game Publishers: Activision Blizzard's Corporate History

David B. Nieborg

Abstract
There is little disagreement among game scholars about the important, if not crucial role of game publishers in the wider game industry. Yet, there is surprisingly little literature on the role of individual game publishers, let alone their publishing strategies. Drawing on critical political economic theory, document analysis is conducted on financial statements of global game publisher Activision Blizzard. Its 2010 publishing deal with game studio Bungie and the 2015 acquisition of King Digital Entertainment serve as case studies to analyse game publishers' role in the formatting of cultural commodities and the subsequent rationalization of game production. Despite the increased accessibility of game development and distribution platforms, publishing power is still a significant institutional force to be reckoned with.

Keywords: game industry, political economy, financial analysis, game publishing, game development, Activision Blizzard

Introduction

In his book on making games, *Blood, Sweat, and Pixels*, game journalist Jason Schreier opens his first chapter with: 'The most important question in video game development has nothing to do with making video games. It's a simple question that has stymied artists for centuries and put an end to countless creative endeavours: *How are we gonna pay for this thing?*' (2017, 1, emphasis original). While Schreier's in-depth reporting demonstrates that there still is so much to learn about game development, he points towards

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questions that have been notably absent in scholarly conversations. When it comes to funding new projects, who is pulling the purse strings? And, when one follows the money in the game industry, where does it lead? In his book, Schreier gives readers a rare look behind the scenes. Not only of the incredibly hard work of making games, but also how different kinds of developers, teams, and studios deal with scraping together the necessary resources to get their projects off the ground, or die trying.

Schreier describes the whole gamut of project financing, ranging from small teams that are barely hanging on to multi-million dollar deals that fund teams of hundreds of developers for multiple years. An example of the former is the rare, yet inspiring story of how the indie game *Stardew Valley* (ConcernedApe 2016) came about. This farming simulator was the brainchild of one man, Eric Barone, who self-funded his dream project and went on to become a multi-millionaire. Barone's rags to riches story is highly aspirational. It is also an atypical story, the majority of 'everyday game makers' (Young 2018) will not even come close to Barone's achievements, nor do they necessarily want to (Whitson, Simon, and Parker 2018). An example of the latter is the development of the first-person shooter *Destiny* (Bungie 2014), developed by Bungie and published by Activision Blizzard. This mode of game making could not be more different than Barone's. From the moment of its conception, *Destiny* was destined to be humongous as Bungie 'reached a whopping ten-year, $500 million, multigame deal with Activision, the publisher of *Call of Duty*. By all accounts it was the biggest development deal in video game history' (Schreier 2017, 200). These are two radically different ways of funding; an individual dipping deep into his personal savings, versus a global game publisher inking a half a billion-dollar deal with a renowned studio.

Contrasting these two games and their makers seems to answer Schreier's simple, yet important question. However, this leaves unanswered an equally important issue: how do these different ways of funding impact what games are made, and when? At first glance, both approaches are similar in the creative autonomy they afford. Barone gave himself an amazing amount of leeway to pursue any and all creative options. Almost to a fault. But so did Bungie. Activision offered the studio the 'creative freedom to develop Destiny games in whatever way it saw fit, so long as every milestone was met' (Ibid.). That said, Activision did expect the studio to follow a 'very strict cadence' of releasing expansion packs, downloadable content (DLC), and sequels (Ibid.). And this is where the two projects diverge starkly. If one, in the case of *Destiny*, follows the money, it demonstrates how a dominant publisher shapes and steers game production. Maybe not so much in the

day-to-day moment of game development – how exactly to skin a character or what code to write for the physics engine – but in deciding a game's form, format, and publishing flow.

In this chapter, I argue that the power and politics – the corporate, managerial, and publishing strategies – of a handful of publicly-traded global game publishers translate into a particular modality of game making. My focus is on game franchises (i.e. serialized intellectual properties), which can be blockbuster console games (e.g. *Call of Duty* and *Destiny*), massive multiplayer online games (e.g. *World of Warcraft*), or casual games (e.g. *Candy Crush Saga*). What I will describe, then, is not a universal publishing logic, but one that is specific to a particular industry sector (the game industry), a specific group of industry actors (globally operating, for-profit publishers) during a particular time frame. If one wants to draw an analogy to other modes of cultural production, such as movie making, my focus is similar to studying the Hollywood studio system, as opposed to arthouse flicks or Bollywood productions. While this is not a comparative analysis, it should be noted that the political economy of blockbuster game publishing shares a number of similarities with other sectors of the cultural industries, including film, television, music, and book publishing (Elberse 2013; Hesmondhalgh 2019).

My argument is that to fully comprehend game making, one must recognize the role, position, and business practices of game publishers. Even the prototypical indie developer Barone ultimately teamed up with Chucklefish; a publisher that may not have had 'the scale and reach of big publishers like Electronic Arts (EA) and Activision, but it did have lawyers, PR people, and other staff who could help Barone with the more tedious aspects of game development' (Schreier 2017, 70). To understand the publishing strategies of the world's dominant publishers and how they impact the form, format, development, and distribution of games as cultural commodities, I draw on two exploratory case studies that involve Activision Blizzard: its publishing arrangement with Bungie and the late 2015 acquisition of casual game developer King Digital Entertainment.

In Western markets, these deals cemented Activision Blizzard's position as one of the world's leading game publishers. The goal of this chapter is not to rehash the merits (or demerits) of both deals or if there may or may not ever be a *Call of Candycraft*. Instead, my approach is rooted in critical political economic thought and is meant to serve as a methodological and theoretical template for future studies of individual game publishers. First, to analyse Activision Blizzard's corporate history, I collected a corpus of documentary sources (Corrigan 2018). Because globally operating media companies rarely provide academics with access to key personnel (Nieborg 2011), interviews

and corporate ethnographies are not a viable option. That said, there are two rich sources of publicly available data for political economists to draw on: Journalistic accounts and investor-focused communications that include financial disclosures and statements by executives, which provide insights into the company's publishing strategies. These sources allow me to track the concentration of corporate ownership and its impact on the form and format of cultural commodities (Kerr 2006; 2017; Woodcock 2019). Second, I want to contribute to the emerging body of work best understood as game production studies (Jørgensen, Sandqvist, and Sotamaa 2017; O'Donnell 2014; Whitson 2019) by shedding more light on what I call the *publisher enigma*. That is, game publishers are highly visible, crucial industry actors. Yet, compared to game platforms operators, studios, and players, publishers received scant scholarly attention.

Spatialization and Commodification

To theorize the role and position of global game publishers I draw on two key political economic concepts: the processes of spatialization and commodification. The process of spatialization corresponds to a macro-economic approach to theorize communication that concerns 'the institutional extension of corporate power in the communication industry' (Mosco 2009, 158). Commodification, then, is based on the Marxian notion of an enterprise seeking 'surplus value' (i.e. profit) turning cultural expressions that have 'use value' into tradable cultural commodities having 'exchange value' (Ibid.). Relating this to game publishing, commodification offers us a way to study what kinds of games are developed and under what conditions, whereas the process of spatialization acknowledges that this process is embedded within the wider logic of global capital. To pre-empt criticism regarding economic determinism, I want to stress that the production and circulation of cultural commodities takes place within capitalist social formations, thereby forming a mutually determined structure that sets the limits of social power. These limits, the access to, and control over the means of cultural production, are 'determined by the specific economic characteristics of the sector and by its direct functional interrelationship with the wider system of material production' (Garnham 1990, 14). Notwithstanding questions of textual interpretation and appropriation by users, this 'determines in ways to be analysed, the type and range of symbolic forms circulated' (Ibid.).

Most of the work by political economists veers towards studying spatialization. And for a good reason. Over the last decades, the cultural industries

have been confronted by the increased concentration of wealth and power spurred by the consolidation of corporate ownership. Seeking economies of scope and scale, media companies such as Disney have become global conglomerates, seeking ways for horizontal, vertical, and diagonal expansion and integration, in order to spread risks, reduce transaction costs, and satisfy the insatiable hunger of finance capitalists (Mirrlees 2013). Why is this important? Have digital tools not resulted in the democratization of cultural production? And do digital distribution and accessible tools not allow for greater cultural diversity? Yes, to an extent. Serious questions have been raised whether or not the ability to develop and distribute cultural content also increases one's ability to capture value (Napoli 2016). More importantly, as Dwayne Winseck (2008) observes, one should not be blindsided by the increase in 'numerical diversity', which he operationalizes as access to more TV channels, and which in the context of this chapter should be understood as the availability of more games. Following Winseck's line of reasoning, the increased ability to develop and distribute cultural content should be measured against the background of a reduction in 'source diversity'; a measure of corporate ownership. That is to say, the proliferation of cultural content does not negate the accumulative logic of global capitalist corporations of culture.

The transformation of the game industry is revealing in debates about ownership concentration and Winseck's operationalization of diversity. In terms of source diversity, the game industry has been anything but an exception to other segments of the global cultural industries. Throughout the game industry's history, global companies such as Atari, Electronic Arts, Nintendo, and Capcom acted as crucial intermediaries financing game development, distribution, and marketing (Johns 2006; Kerr 2006; 2017). In their landmark contribution, Canadian game scholars Stephen Kline, Nick Dyer-Witheford, and Greig de Peuter note that after a short phase of 'garage inventiveness,' the game industry 'mutated into a set of oligopolistic corporate alliances where an apparent diversity of game development companies is increasingly dominated by a handful of publisher and multimedia giants' (2003, 81). Even though today's presence of game publishers within the wider game ecosystem may seem less ubiquitous because of the newly emerging set of industry actors, platforms, and cultural intermediaries (Whitson, Simon, and Parker 2018), I would argue that the power of game publishers is anything but waning.

Political economic analysis foregrounds that the concentration of ownership tends to translate into a *dominant* production logic. Following Aphra Kerr (2017, 15), a production logic can be understood as 'a relatively stable set

of institutional relationships generated by the commodification of cultural production.' The dominant mode of production associated with global game publishers, then, is one in which publishers act as powerful institutional actors that fund and thus steer game development. In other words, global game publishing marks a profit-driven, capital-intensive mode of production, which constitutes a highly rationalized publishing rationale as exemplified by franchising and formatting (Nieborg 2011). Despite the acknowledgement of their influential role, the exact ways in which publishers set out to shape game making is still somewhat of an enigma.

Game Studies and the Publisher Enigma

When discussing institutional (i.e. intra-industry) relationships in the game industry, much of the scholarly attention has veered either towards platform holders (Montfort and Bogost 2009), superstar developers (deWinter 2015), or game studios (O'Donnell 2014). While the powerful position of game publishers in the industry's 'production network' is widely acknowledged in the literature (Johns 2006), in-depth case studies analysing the trajectory of individual publishers and their publishing strategies are rare. The current body of scholarship within the wider realm of media studies and game studies discussing the game industry can roughly be put into three groups. First, there are the aforementioned scholars whose valuable and influential work on platforms appears under the banner of (game) 'platform studies' (Montfort and Bogost 2009). Here, the role of publishers is acknowledged when it pertains to the histories of specific hardware generations or when hardware manufacturers themselves (e.g. Nintendo) act as 'first-party' publishers. Second, there are book-length studies with a critical bend that tend to take a birds-eye view of the game industry (Dyer-Witheford and de Peuter 2009; Kerr 2006; 2017; Kline, Dyer-Witheford, and de Peuter 2003). These monographs provide an important starting point to consider the institutional relationships among major actors in the industry. However, these contributions also lack in-depth, empirical accounts that engage with individual publishers. Third, there is an emerging body of work under the rubric of 'game production studies', which primarily deals with the politics of cultural production while acknowledging, to varying degrees, issues of power. Work in this most recent tradition considers the gendered nature of game production (Chess 2013), the precarious nature of game labour (Whitson 2019; Woodcock 2019), the position of local teams and studios, and regional clusters in the wider global industry (Jørgensen, Sandqvist, and

Sotamaa 2017; Young 2018), or the emergence of indie game development (Whitson, Simon, and Parker 2018). This third strand provides an important contribution to understand contemporary game making and would benefit directly from historical and contemporary accounts of the political economy of game publishing.

Three studies in particular stand out that help to get a better grasp of the processes of spatialization and commodification and how they impact game publishing. First, there is Casey O'Donnell's monograph (2014) investigating the 'secret world of videogame creators.' His perspective is that of the game developer and the studio as its organizational unit. O'Donnell's work makes a clear case for how console development cannot be separated from publishing. For example, he points to the deep power asymmetry between developers and publishers, noting that small studios in particular bear the brunt of the risk whereas 'large corporations capitalize only on what's popular' (Ibid., 156). Developers seem astutely aware of their lack of control and, despite their culture of secrecy, openly qualify the relationship with a publisher as a 'troubled marriage', as publishers are in charge of access to key institutional actors, such as platform owners (Ibid., 192). This relationship, then, fosters a culture where 'publishing companies desire to play it safe' which 'means that they leech the profits of particular game franchises to death, rather than nurturing the kinds of environments where runaway hits can be fostered and grown' (Ibid., 190). It may not come as a surprise that O'Donnell's fieldwork took place at an Activision subsidiary. Building on O'Donnell's work, Brendan Keogh (2019, 21–24) argues that from the late 1980s through to the early 2000s, the industry was 'aggressively formalised' by the console manufacturer/publisher tandem who engaged in 'legal, technological, and discursive work' to normalize a particular mode of 'professional' game production. More recently, accessible and affordable game engines, particularly Unity, present a new avenue for developers to engage in more informal modes of game production outside the purview of publishers (Ibid.; Young 2018).

Notwithstanding the value of these two interventions, to find research that includes the analytical perspective of a game publisher takes us outside the field of game studies and leads us to business studies. Thijs Broekhuizen, Joseph Lampel, and Joost Rietveld (2013) conducted an experiment to compare the economic effects between an independent game studio self-publishing and partnering with a game publisher. To theorize the potential value publishers contribute, the authors draw on the notion of 'specialized complementary assets': a concept from organizational theory

that describes a unique set of scarce resources a company possesses. Game publishers typically hold four such assets: 1) a large portfolio of content that can be used to cross-promote content; 2) superior marketing skills and assets; 3) a good relationship with game platforms; and 4) having a good track record or reputation. Together, these resources demonstrate why publishers still are highly relevant in the age of digital distribution as partnering with a publisher results in higher revenues. As noted by the authors, because of the advent of digital distribution, publishers 'seemed irrelevant to many in the industry,' however, because of their specialized capabilities, they 'reestablished their role as selectors, evaluators, and marketers' (2013, p. 962). For new industry entrants, it is incredibly challenging to acquire any of these four resources by themselves, let alone the equally important financial resources to compete against incumbents. Despite its empirical contribution, this study comes with its own limitations as little is said about the effects of a publisher's complementary assets on the commodification of content or the accumulation of corporate power. What this study emphasizes, though, is the importance of portfolio-based strategies, a common de-risking strategy in the publisher-driven sectors of the cultural industries (Hesmondhalgh 2019).

To unpack the publisher enigma, I reflect on Activision Blizzard's corporate history, followed by two brief, exploratory case studies. To contextualize the oftentimes contradictory practices of corporate institutions, my methodological approach is rooted in political economic thought and two sources of data are considered. First, I studied the history of all companies involved in order to contextualize their position in the wider industry. Second, I conducted document analysis by a close reading of their financial data and corporate and managerial statements. By doing so, I follow Corrigan's (2018, 2757) suggestion to 'burrow down', by paying attention to business practices and statements about industry conditions, which, in turn, allows me to 'listen in' by considering the discourses about those practices and conditions. Because Activision Blizzard is publicly traded, there is a significant amount of publicly available company data, which includes mandatory SEC (Securities and Exchange Commission) filings, annual reports, presentations at analyst and investor events, and quarterly calls with investors. Transcripts of conference calls disclosing quarterly results are a particularly rich source of data, as they include senior management explaining the financial rationale and the company's managerial perspective on game publishing. Altogether, my corpus consisted of 65 corporate documents published between 2006 and 2019.

Activision: The First Third-Party Publisher

Activision came into being as one of the first 'third-party' (i.e. not directly owned by a hardware manufacturer) publishers when a group of ex-Atari developers got together to attract venture capital. To make a name for themselves and to entice investors, the small outfit of programmers 'created a distinctively non-Atari corporate identity, using only the most saturated colours in its games, developing a consistent, distinct style for labels and boxes, and including the Activision logo (but not any programmers' names) on every game screen' (Montfort and Bogost 2009, 100). These initial efforts correspond neatly with the specialized complementary assets described by Broekhuizen et al. (2013), as the publisher went to build and expand a portfolio, invest in marketing, and build a reputation. A number of successful games that pushed technological and genre boundaries were published, chief among which *Pitfall!* (Activision 1982). A year later, with competitors flooding the market with sub-par clones and mediocre productions, the infamous video game crash took place. The crash resulted in years of industry upheaval and corporate diversification and also impacted Activision, which fired a substantial number of employees (Kocurek 2015).

A decade later, Activision entered its second act and was reborn when Robert 'Bobby' Kotick led a group of investors to transform the company into a publishing powerhouse. It is at this point that the contours of a future Activision became visible. Kotick first restructured the company, keeping important assets such as intellectual property licences and rekindling the relationships with console manufacturers while firing the majority of employees. Then he took the publisher public in 1993, which set the company up to engage in an endless string of acquisitions of studios, most of which were shut down after the 2008 financial crisis. Part of Activision's growth trajectory neatly dovetails with the process of spatialization, particularly the 2007 merger with Vivendi Game's subsidiary Blizzard Entertainment. The French conglomerate Vivendi got a majority stake in the new company, renamed Activision Blizzard, which it subsequently sold in 2013. With the merger, the publisher diversified its portfolio by combining Activision's catalogue of console titles with Blizzard's PC-based expertise and intellectual property (i.e. *Warcraft*, *StarCraft*, and *Diablo*). Equally important, particularly to investors, the new publisher would benefit from the more diverse business models of Blizzard's PC titles. Instead of the heavily seasonal income generated via console titles, the majority of which are sold in the winter months, *World of Warcraft*'s (Blizzard Entertainment 2004) monthly subscription fees promised recurring revenues all year round.

Immediately following the merger were a series of managerial decisions aimed at lowering the risks associated with publishing original content. Rather than a broad portfolio, Blizzard's significant new revenue stream allowed management to go 'narrow and deep', heavily curtailing its console portfolio (Activision Blizzard 2008). In a series of investor calls over the course of 2008 and 2009, Kotick reiterated the publisher's focus on 'proven franchises', which he used as a reason to shut down projects and studios that were unable (or unwilling) to commit to this new strategy (Ibid.). Put bluntly, the CEO stated that: '[titles that] don't have the potential to be exploited every year across every platform', and which do not have 'clear sequel potential that can meet [Activision Blizzard's] objectives of, over time, becoming $100 million plus franchises', would be purged from its catalogue (Ibid.). Original intellectual property planned to be published, such as *Gun* (Neversoft 2005) and *Brütal Legend* (Double Fine Productions 2009) were either discontinued or sold off, while existing franchises, such as the *True Crime* series (2003), were put on hold.

Guitar Hero and *Call of Duty,* on the other hand, were seen as 'proven franchises' with 'clear sequel potential' and thus awaited a different fate. After its 2005 launch, *Guitar Hero* (Harmonix 2005) turned out to be a surprise hit and introduced a new genre of rhythm games played on plastic peripherals to a Western audience. The 'Hero' template lent itself well for Activision Blizzard's approach to franchising: pushing out annualized cross-platform sequels and expansions. In rapid succession Activision published new instruments (e.g. plastic drum kits), 'band packs' (e.g. *Guitar Hero Metallica*), spin-offs (*DJ Hero*), a string of downloadable content (DLC), and versions for handheld platforms (*Guitar Hero: On Tour*). Financially, the franchising strategy worked wonders for the publisher's bottom line, generating over a billion dollars in revenue from 2005 to 2007 (Activision 2008). Then again, the franchise hit a clear wall with consumers early 2009, when sales started to slow down starting with *Guitar Hero World Tour* (Neversoft 2008), followed by a lukewarm response to annual instalments in 2009 and 2010 and an unsuccessful reboot in 2015.

The first-person shooter franchise *Call of Duty* followed a similar path as *Guitar Hero* but has had much more longevity as a franchise, becoming the publisher's Trojan Horse to push the publishing logic of franchising to new heights. To take advantage of the affordances of digital distribution of the PlayStation 3 and Xbox 360, with subsequent instalments of the *Call of Duty* franchise the publisher experimented with a novel release strategy best understood as 'branched serialization' (Nieborg 2011). To fill the gaps between the game's annual releases, the publisher released DLC

that contained additional material, primarily 'map packs', to generate high-margin revenue during the spring and summer months. Each in different ways, both franchises followed Kotick's vision of a 'narrow and deep' portfolio to the letter. *Call of Duty* in particular demonstrated that Kotick was correct when in 2008 he argued to financial analysts that a 'high profile release strategy' and 'innovation in existing franchises' is a 'recipe for margin expansion' (Activision Blizzard 2008).

Big Deals and Even Bigger Acquisitions

The meteoric rise and subsequent crash of the *Guitar Hero* franchise is illustrative of what a publisher is able to do when it has an unexpected hit on its hands. Recognizing an opportunity to build a franchise, Activision tasked multiple studios to work on sequels and spin-offs, while leveraging its complementary assets by investing heavily in mass marketing campaigns. Then again, betting a billion-dollar game company on one or two horses makes investors nervous. While the appetite for *Call of Duty* sequels seems endless, it is not guaranteed. In April 2010, Activision Blizzard decided to diversify its slimmed down portfolio and fill it with another billion-dollar franchise by striking a ten-year publishing deal with the famed game studio Bungie. Considering its experience with the successful and long-running *Halo* series, if any studio was well positioned to launch a new franchise to be expanded in every direction, Bungie was the ideal candidate.

Throughout 2011, the publisher framed the deal in its corporate outreach to analysts and investors as a long-term investment in 'our new universe.' As noted in the introduction, the publishing arrangement was unprecedented in terms of its scale, scope, and price tag. In his book, Schreier (2017) tells the inside story from Bungie's perspective by recounting the challenges the studio faced in balancing creative and commercial pressures while juggling advanced technology. Even though the publishing arrangement afforded the studio significant creative leeway, a leaked contract revealed a publishing schedule that was as grandiose as it was gruelling. *Destiny*'s first instalment was set to be published in the fall of 2013, followed by an expansion a year later with a number of DLC packs throughout. This two-year cadence was then to be repeated four times until 2019. In the end, the publisher's pace was untenable and the release dates of its main instalments were not met (Krassen 2016; Schreier 2017). Under pressure from the publisher, Bungie released an endless stream of expansion packs followed by the 2017 release of *Destiny 2* (Bungie 2017). The franchise, however, never materialized into

a 'billion-dollar franchise' and the publishing deal was not renewed, as 'it was not meeting our financial expectations' (Activision Blizzard 2019).

How, then, does Activision's history help us understand the publisher's second major investment: the acquisition of King Digital Entertainment? Through the 2007 merger with Blizzard, Activision broadened its portfolio but lacked any titles in the by then emerging sub-segments of social network and mobile games. New studios, such as Rovio, Zynga, and Supercell, started to generate billions of dollars in revenue by catering to a much broader and diverse audience compared to traditional console and PC-game players. Initially, incumbent publishers struggled to formulate effective strategies to capture significant market shares. Rather than developing mobile or social games in-house, incumbents chose the path of acquisition. For example, Kerr (2017, 48–49) lays out how Electronic Arts – for decades Activision's main rival – made a string of acquisitions that included Jamdat (2005), Playfish (2009), and PopCap (2011), which were active in the feature phone, social network game, and mobile game sectors, respectively. Barring exceptions, such as the multiplatform card game *Hearthstone* launched in 2014, and later instalments of the *Skylanders* franchise, Activision Blizzard seemed reluctant to publish games on Facebook or enter Apple and Google's app stores in full force. Throughout 2014 and 2015, the publisher's executives were explicit towards investors about the creative and revenue potential of mobile games, but it took until November 2015 to acquire King Digital Entertainment. At that point, the company worked across seven studios and its portfolio of over 200 games serviced 330 million monthly unique users across the globe.

Since King was headquartered in Ireland prior to its acquisition, the takeover had to follow Irish law, which stipulates that shareholders must have sufficient time and information to reach an informed decision. As a result, a 71-page document was released outlining Activision Blizzard's strategic rationale driving the takeover. For one, next to developers Machine Zone and Supercell, King had become one of the leading mobile game app developers. In addition, because of the acquisition, the publisher more than doubled its addressable audience and got access to expertise about the emerging freemium or free-to-play business model. But next to these reasons I would argue that the publishing logic underlying King's flagship franchise, the *Candy Crush Saga* series, comes straight out of Kotick's franchising playbook. In the months leading up to the merger, King's Chief Operating Officer Stephane Kurgan explained:

> [...] we are now focusing on a franchise model. By expanding [the Candy Crush] brand and extending the life cycle through a two-prong approach.

> First, we will keep releasing at regular intervals, large game extensions in our existing titles [...]. Second, [...] we have initiated a multiyear development plan to continue to release additional franchise titles and are investing in development efforts to do this on a regular cadence (King Digital Entertainment 2015).

This is a similar approach to publishing as with *Call of Duty* and *Destiny*, that of various forms of serialization and extensions. King's main title, *Candy Crush Saga* (King 2012), contains over 8000 individual levels (and counting), extensions that add replayability to existing content, and three official sequels, *Soda Saga* (King 2014), *Jelly Saga* (King 2015), and *Candy Crush Friends Saga* (King 2018). As such, it follows in the footsteps of investing in a narrow and deep slate of proven franchises.

Conclusion

Given the creative and financial successes of indie developers one wonders: is there a new era of garage inventiveness on the horizon? If so, what does this mean for the power of global publishers? The advent of digital distribution platforms – most notably social networks sites, mobile media (i.e. smartphones and tablets), and Steam for desktop games – has undoubtedly lowered the barrier to market entry for game developers, thereby clearly increasing the numerical diversity of games. The mere fact of *Stardew Valley*'s development and its ability to generate millions of dollars in profit, demonstrates that individuals or small teams have access to a global market and that the power of publishers is not all-encompassing. Then again, financial analysis of the Canadian iOS App Store, shows that the majority of mobile revenue and profits are captured by a very small group of globally operating incumbents (Nieborg, Young, and Joseph 2020). That is to say, the success of *Stardew Valley* is the proverbial exception to the rule as it is not indicative of a significant shift in the role, position, and institutional practices of dominant industry actors. Indie development 'is risky, riddled with inequalities, and arguably no more creative' than blockbuster games (Whitson, 2019, p. 797). Similarly, while indie developers have a collective allergic reaction to anything a game publisher stands for (Whitson et al. 2018), this does not mean that the latter's complementary assets have become redundant.

A systematic reading of corporate documentation shows how Activision grew from a small, national publisher into a global gaming conglomerate. Aided by ready access to finance capital—the King acquisition was partly

financed by a US$2.3 billion loan by Bank of America Merrill Lynch and Goldman Sachs Bank USA – Activision followed in the footsteps of many of its conglomerate counterparts in other media sectors (Hesmondhalgh 2019). That is to say, this story is not unique. Similar to television and film studios, the game publisher benefitted from the insatiable urge of its customers to have more of the same, to stay within the confines of existing intellectual property, rolled out at preferably predictable intervals. For example, while King keeps introducing new titles, late 2020, it is the *Candy Crush* franchise that still has a top spot in the US app rankings, generating millions of dollars of profit in the process. And thus, that is where the money flows to and from. Another way to look at the King acquisition would be that after an initial phase of industry disruption and the introduction of new game platforms, order was restored in the market for mobile games. A decade after the opening of the app stores by Apple and Google, legacy publishers and new publishing powerhouses (e.g. Tencent) have reinserted themselves as vital institutional actors. For the foreseeable future, the game industry's dominant publishing logic is not developer-driven, but remains publisher-led.

While far from exhaustive or complete, recounting the contours of the Bungie deal and King's acquisition are meant to serve as a methodological and empirical blueprint to inspire future work on publishing power. While Bungie decided to part ways with Activision Blizzard in 2019, in the case of King I would go as far as to say that the two companies were destined to be together; a match made, depending on your perspective, in heaven or hell. They both share a similar corporate logic that is best understood as pursuing a for-profit, standardized, capital-intensive, and a highly rationalized mode of production. In other words, they share a blockbuster mentality. Those who want to understand for-profit game making should therefore consider the publishing, corporate, and managerial strategies set by game publishers. After all, they pay for that thing.

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10. Who Creates Microtransactions: The Production Context of Video Game Monetization

Lies van Roessel & Jan Švelch

Abstract
Despite a growing academic interest in in-game monetization, much less attention has been paid to the production context of microtransactions. With this chapter, we aim to address this gap by focusing on the roles and responsibilities related to video game monetization. We answer the titular question of this chapter using a mixed methods approach, combining semi-structured interviews, content analysis of job descriptions, and frequency analysis of in-game credits. Results suggest that monetization responsibilities are both being integrated into various existing roles, including game designers or product managers, but also spawn new dedicated roles of monetization specialists. Monetization as a game development task is closely related to data analysis and only inconsistently appears in in-game credits.

Keywords: game industry, monetization, microtransactions, job listings, data analytics, loot boxes

We're doing a free to play game, with essentially loot boxes, after we were bought by EA, and it's not *Titanfall 3*. It's the perfect recipe for a marketing plan to go awry, so why have that – let's just ship the game and let players play.
– Drew McCoy, lead producer of *Apex Legends* (Respawn Entertainment 2019) in an interview for Eurogamer.net (Kent 2019)

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Introduction

Microtransactions have become such a contentious part of video games – even more so in the context of mainstream PC and console games – that developers and publishers employ various discursive strategies in order to reframe the public discussion or divert attention away from these controversial monetization practices. The marketing strategy of *Apex Legends* to publish the game right after its announcement to prevent negative reception of its chosen revenue model – freemium with loot boxes and season passes – is only one of many examples of this deliberate behaviour. Others include Electronic Arts' attempts to redefine loot boxes as *surprise mechanics*, or CD Projekt's offering of free DLC to separate itself from the competition. In mobile games, microtransactions are generally more accepted but even here players complain about aggressive monetization (Heimo et al. 2016), sometimes forcing companies to adjust their pricing strategies or at least publicly commit to them (Švelch 2019). Video game representatives thereby engage in *shadow academy* (Caldwell 2014): a layer of quasi- and pseudo-critical discourses that address the contentious aspects of the industry and problematize scholarly reflection of respective professional practices.

A part of this strategy is the lack of public disclosure about the design of microtransactions and the particular developers who are responsible for it within large and highly specialized video game development teams (see O'Donnell 2014). Existing research on in-game monetization exhibits the same blind spot. Its majority focuses on players' experiences, yet little attention is paid to the work practices and attitudes of developers (cf. Alha et al. 2014), especially the ones who actually create, optimize, and implement in-game monetization. This corresponds with the general state of game research in which the matters of production are arguably understudied compared to other areas such as reception or game content (Kerr 2017). Consequently, monetization as a specific kind of expertise is overlooked by researchers and misunderstood by audiences. A recent controversy (Rivera 2019) surrounding in-game purchases in *Wolfenstein: Youngblood* (MachineGames and Arkane Studios 2019) suggests that players do not distinguish between various roles within game development teams when complaining about microtransactions. In this particular case, a lead level designer was targeted on social media, although his involvement in the game's monetization model is unlikely. *Youngblood's* in-game credits do not help in this regard as they do not list any job titles that could be easily associated with monetization.

While other roles, such as creative directors, artists, or voice actors, receive more recognition in the specialized press, academic writing, and audience discussions, the absence of publicly available information about the production context of monetization is telling and points to a specific self-construction and self-presentation of the video game industry, the so-called para-industry (Caldwell 2014). Professions related to monetization are arguably important to the production and distribution process of games due to the lucrativeness of microtransactions (Hart 2017; Nieborg 2016b; O'Donnell 2017). Although they might be valued internally, their contribution is downplayed in the communication towards external stakeholders. In this chapter, we address this overlooked area by directly focusing on video game monetization professionals and their expertise drawing from nine semi-structured interviews, a content analysis of 100 job listings, and a frequency textual analysis of 72 in-game credits lists.

A Brief History of Video Game Monetization and Microtransactions

Video game development started as a non-commercial endeavour, but turned into an industry in the early 1970s (Kline, Dyer-Witheford, and de Peuter 2003; Van Dreunen 2011). At that time, two major business models were established: 1) coin-op arcade games; and 2) home consoles, both inspired by different sectors of the entertainment industry. Coin-op arcade machines adopted the monetization strategy known, for example, from pinball machines (Kocurek 2012). While the unit price was relatively affordable – around 25 to 50 cents in the US (Hart 2017), thus giving players the opportunity to try the game for a low fee – repeated play could become expensive as there was no hard spending cap. Home consoles, starting with Magnavox Odyssey in 1972, utilized the business model of toys and board games by offering a self-contained product with separately sold add-ons. This monetization strategy is now often referred to as premium. In this case, the initial cost was higher compared to arcade games but allowed for infinite replay. In other words, the consumer became an owner of a game and could play at their own discretion. This one-time fee approach became the norm in the 1990s and laid the foundation for the so-called AAA game industry (Nieborg 2016b). Other forms of monetization, such as subscriptions (Kerr 2017), shareware (Heimo et al. 2016), i.e. offering a limited version of the game for free, after which one could upgrade to the full version, or in-game advertising (Nieborg 2016a), also emerged in this

era. These business models were facilitated by online connectivity, but were mostly limited to certain genres of games, e.g. massively multiplayer online games or browser games.

In the context of the rising costs of video game production in the 2000s and the associated financial risks, the so-called freemium model became a popular and lucrative alternative in part due to lower up-front investments, especially with the emergence of smartphones and the consequent rise of the mobile gaming sector (Hart 2017; Nieborg 2016b). Freemium, also known as free-to-play, is built around microtransactions in the form of in-app purchases, although some games employ in-game advertising as a major source of revenue. The game itself is distributed for free via digital platforms such as the App Store, Google Play, or Steam, which facilitated the freemium model in the first place through their computer network infrastructure. Microtransactions tend to have a relatively low cost compared to the standardized 60 USD price tag for most mainstream blockbuster titles. In this regard, microtransactions resemble coin-op arcade machines as in both cases the unit price is small but can stack up with repeated purchases. However, while arcade games monetize the access to a game, and, by extension, playtime (Kocurek 2012), freemium titles can sell a variety of virtual goods (Nieborg 2015), including prolonged playtime, but also, paradoxically, an acceleration of in-game activities and thus technically a shorter playtime (Evans 2016). The underlying assumption of freemium is that the game can be played for free despite the existence of microtransactions. In fact, the majority of players will never spend any money playing such games (Chew 2016).

With the growing popularity of in-app purchases, their variety has also expanded, in consequence establishing specific monetization techniques and mechanics. These can be classified using multiple criteria (see Lescop and Lescop 2014; Nielsen and Grabarczyk 2018; Švelch 2017), but for the sake of brevity, we highlight only two of these possible distinctions, which are especially relevant due to their salience in the video game vernacular (Švelch 2017). First, microtransactions can either affect gameplay, for example by giving an advantage to the paying user – often referred to as pay-to-win – or only adjust cosmetic aspects of a game, such as skins for player characters. Second, players can either directly purchase specific virtual items of which the value is known up-front or acquire randomized rewards. The latter option primarily relates to the so-called loot boxes, which have become a major form of microtransactions in the 2010s. Their origins can be traced to trading card games (Nielsen and Grabarczyk 2018; Švelch 2020), such as *Magic: The Gathering* (Garfield 1993).

Microtransactions Controversies

Despite the lucrativeness of the freemium business model, many complaints have been lodged against microtransactions by players (Almaguer 2019; Milner 2013; Švelch 2017), industry professionals (Alha et al. 2014; Chew 2016), and other stakeholders, including regulatory and governmental bodies (see King and Delfabbro 2018; Schwiddessen and Karius 2018). While some players willingly invest into in-game purchases for utilitarian, social, and hedonic reasons (Marder et al. 2019; cf. Gainsbury et al. 2016; Hamari 2015), others dismiss them as equivalent to cheating if they provide advantage for paying users (Carter and Björk 2016; Švelch 2017). The possibility of excessive spending due to the repeatable nature of many types of microtransactions raises concerns about ethical monetization (Harviainen, Paavilainen, and Koskinen 2019; Heimo et al. 2016), suggesting that some players, often designated as 'whales,' become targets of exploitative design of certain games with in-app purchases (Chew 2016; Dreier et al. 2017).

Since 2017, the general concerns about microtransactions have been exacerbated by the backlash at loot boxes, which are perceived to share formal characteristics with gambling (Nielsen and Grabarczyk 2018). Matthew E. Perks discusses the details of the recent loot box controversies and the attempts at their regulation in Chapter 11 of this edited collection. Despite the aforementioned criticisms, existing empirical research on developers' attitudes towards in-game monetization (Alha et al. 2014) suggests acceptance or even appreciation of these new business models. However, these findings might be specific for the Finnish video game industry, where the study was carried out, and have not been since supported, partly due to the overall lack of research on production aspects of video game monetization.

Convergence of Monetization Practices

While premium and freemium originated as two distinct monetization models, their convergence can be observed from the early 2010s (Milner 2013). Initially, developers and publishers of premium games experimented with various forms of paid expansions. Due to the rise of digital distribution platforms (Kerr 2017; O'Donnell 2017), these add-ons have been transformed into the so-called downloadable content (DLC; Nieborg 2014). Traditionally, DLC does not support repeated purchases as it monetizes relatively persistent additions to the main game such as new levels, quests, equipment, characters, etc. (Nieborg 2014; Švelch 2017). Still, even in this form, which arguably

adhered to the established norms of the premium business model, DLC and especially the day one DLC, which is available for purchase already on launch, was criticized by players for resembling monetization of mobile games (Milner 2013). Despite the initial wave of audience complaints and resistance, premium games later adopted repeatable microtransactions as well, thus effectively establishing hybrid monetization models such as 'paymium, sub-freemium, [or] free-paymium' (Lescop and Lescop 2014, 107). The terminology is still in flux (Chew 2016) and players and journalists regularly introduce neologisms to mock these business models, such as 'fee to pay' (Sterling 2015). Yet, microtransactions in their various forms have become the norm across video game genres and platforms (Milner 2013; Švelch 2017). Purely premium monetization is currently being abandoned by many big budget titles, which seek additional revenue via microtransactions. As a result, it can be hypothesized that monetization expertise turns into a more universal skill applicable across many sectors of video game production.

Development Implications: Monetization Professionals in Context

Although a game's business model has always influenced game design in a more or less obvious way (Alves and Roque 2007; Nieborg 2014; Prax 2013), microtransactions, especially in the freemium realm, are particularly closely tied to gameplay. As the core game loop needs to be 'monetizable,' early game ideas can be discarded on the basis of the monetization model, and freemium game design can therefore even be considered a 'design lens of its own' (Järvinen 2012). According to Aphra Kerr (2017), the particular 'platform production logic' is characterized by a continuous flow of user data and the role of indirect revenues by e.g. microtransactions. As such, monetization can play a significant part in a game production process. As indicated above, there is a great variety of possible monetization techniques, i.e. ways to connect microtransactions to gameplay – with some more controversial than others – which makes designing monetization a delicate endeavour.

But whose responsibility is it to perform this task, that is, to design and implement monetization? Traditionally, video games are created by the triad of game design, game art, and programming (O'Donnell 2014; Tschang 2005; Van Roessel and Katzenbach 2020; Whitson, Simon, and Parker 2018), and often the project is managed by a producer. In larger productions, the main disciplines can be divided into sub-disciplines and specialized roles, such

as level design or 3D art. More recently, partly due to the abovementioned developments regarding business models and the emergence of games as service (Stenros and Sotamaa 2009; Švelch 2019; Whitson 2019), additional roles have appeared, such as community managers and data analysts (Kerr 2017). The exact team composition and task division vary depending on the size of the project and the game's genre. Moreover, as the industry's practices are still in flux, development studios use different job titles to designate the various responsibilities needed in video game production. This rather unstable situation, combined with the industry's awareness of the controversial status of microtransactions, makes the question of who designs monetization interesting yet complicated. Is there, for example, a dedicated person with specialized expertise and a corresponding job description, or is the task rather divided amongst other disciplines? If the latter is the case: does it concern the traditional core disciplines or are other roles involved? And what skills should a game professional concerned with monetization design possess?

Methodology

In order to answer these questions, we designed a mixed methods approach, consisting of three parts: 1) semi-structured exploratory interviews; 2) content analysis of job listings; and 3) frequency analysis of in-game credits. The first part focused on video game professionals' reflection of monetization expertise and its role in video game production. The second part, which was inspired by previous research into the job requirements of community managers (Kerr and Kelleher 2015), explored how monetization expertise as a job task and skill requirement is communicated towards a very particular audience of potential employees. The last part dealt with how monetization-related roles are presented to players via in-game credits. Combined, these approaches aim to compensate for the existence of *shadow academy* (Caldwell 2014) by data triangulation in three specific contexts, which arguably highlight different aspects of in-game monetization.

In 2016–17, we conducted nine semi-structured exploratory interviews with game professionals working for Germany-based game studios,[1] which

1 The potential impact of the local specifics of the German video game industry (see Van Roessel and Katzenbach 2020) should be relatively negligible, also due to the fact that interviewees were of different nationalities.

we transcribed and coded using MaxQDA. The interviewees were all working on free-to-play titles and included two game designers, two producers, a product lead, a head of games, a studio game design director, a creative director, and a freelance monetization consultant. In the chapter, we refer to our informants with pseudonyms. The interviews were conducted in English and lasted about 90 minutes each. Additionally, we analysed 100 job descriptions that mentioned the term 'monetization' (or 'Monetarisierung' in German). We searched job posting aggregators Gamasutra, Games Jobs Germany, Glassdoor, and Indeed and looked through job offers from the major international video game companies: 2K Games; Activision Blizzard; Electronic Arts; Epic Games; Ubisoft; and Zenimax. We collected these job postings between October 2018 and July 2019. The sample included positions located in nine different countries (out of which 67 were in the US, followed by thirteen in Germany) and offered by 41 companies (the most frequent employer was Electronic Arts with 22 listings, followed by Activision Blizzard and Ubisoft with eight job offers each).

We then conducted a content analysis (Krippendorff 2004) with a job description as a coding unit. The final coding was preceded by a pilot analysis with ten units and two rounds of intercoder reliability tests, both times on a randomly selected sample of 50 units (50 per cent of the whole corpus). We iterated on the operationalization of individual variables to improve the reliability scores and we eventually dropped three variables out of the original sixteen due to unsatisfactory agreement rates. In this chapter, we focus on a subset of ten variables (see Table 10.1). The listed scores reached acceptable values for this type of exploratory, mixed-methods research (Krippendorff 2004); particularly the main variable – game development role – exhibited a highly reliable Kripendorff's alpha. All the coding was carried out by the two authors and distributed equally among them. The coder bias was in this case justified by the coders' knowledge of the complex realities of video game production (see O'Donnell 2014).

In the last step, we searched in-game credits of both bestselling AAA games and top grossing freemium titles for roles related to monetization. The sample of AAA games was partly based on Amazon's best-selling games lists for 2018 and 2019 and included fifteen mainstream games that featured microtransactions. For the freemium games, we drew from data about the top grossing titles on Google Play in the European region. To account for potential seasonal changes and other possible outliers (e.g. expansion schedules and content drops, which might influence revenue), we looked at the top 50 games at two separate points in time three months apart from each other (November 2018 and February 2019). This process yielded 57 unique

Table 10.1: Overview of the content analysis variables

Variable	Type	Categories	Krippendorff's Alpha
Game development role	nominal	13	0.896
Level of required or recommended degree	ordinal	3	0.906
Degree type (first mentioned)	nominal	7	0.738
Degree type (second mentioned)	nominal	7	0.762
Degree type (third mentioned)	nominal	7	0.795
Skill requirement: analytical mindset	nominal	2	0.702
Skill requirement: data analysis	nominal	2	0.861
Skill requirement: game design	nominal	2	0.742
Skill requirement: market knowledge	nominal	2	0.788
Skill requirement: management	nominal	2	0.769

titles, showing that many of the analysed games experience a relatively long-term success. Notably, none of the games dropped below the top 100 grossing games on Google Play. In total, we analysed 72 in-game credits lists.

Results: Monetization as a Role and a Task

Integration versus Specialization

Based on our content analysis, monetization responsibilities are handled by a relatively wide range of video game development professions, both established general roles and emerging ones. This is necessitated not only by freemium monetization, but also by data-driven design (Kerr 2017; Whitson 2019) and the games as service paradigm (Stenros and Sotamaa 2009; Švelch 2019; Whitson 2019). The keyword monetization appeared in job descriptions of eight different roles (in descending order): producer (31); designer (24); data analyst (14); monetization specialist (13); business and marketing professions (8); live ops (6); programmer (3); and user researcher (1). Even though the corpus of job postings is not fully representative and the extent to which the positions focus on monetization differs from brief mentions to main tasks, monetization-related duties seem to be integrated into other roles besides the dedicated specialists in this area. Notably, however, from the core triad of design, art, and programming, mainly design was represented. These findings resonate with how our interview respondents saw monetization as a core part of video game design, especially in the context of freemium games. Theresa (pseudonym, female, 40s), a CEO of a small company told us: 'what [...] was always important is that not only one person has knowledge

of what the monetization is about, but that everyone in the game design team and the producer and me understood how the monetization in our game works.'

The job listings data suggests that monetization experts as a specific role more often appear in larger studios, such as Electronic Arts, Ubisoft, or Goodgame Studios, which is to be expected due to a higher degree of job specialization in these companies. Smaller teams sometimes hire an external monetization consultant. This was, for example, the case with Theresa, who hired a freelancer to help out with the monetization model of their game project:

> [...] so we had [...] this double loop for the game and the second I had the vision, I brought a monetization expert on board, on a freelance basis, but on a regular basis. So, it was very important for me that we have monetization expertise on board from day one.

Other teams decided to delegate these duties to designers and other staff, showing a need to make do with the existing resources. Aaron (male, 30s) producer at a small mobile game company described how they handled monetization:

> Q: Does the designer have special skills, also in monetization, or experience?
>
> A: I think if you work on free-to-play then yes, you should have. I know that [...] in big companies there are monetization designers and other types, but [...] we're a small company so everybody needs to be able to encompass the whole role [game design including monetization design], otherwise it doesn't make any sense.

Although monetization experts seem to be in high demand as their skillset is well regarded and deemed important already in the early stages of game production, we observed tensions regarding the degree of specialization and integration of monetization expertise. As mentioned, monetization-related tasks are added to the workloads of existing professions, sometimes out of convenience or due to budgetary restrictions. Previous research has already shown that indie studios in particular require that their developers take care of a number of different responsibilities from game design, business development, and public relations (Whitson, Simon, and Parker 2018) to data analysis (Whitson 2019).

Besides these practical reasons, integration is also motivated by the belief that monetization is a core aspect of many, especially freemium, games and as such it should be considered early on in the development process. By making sure that game designers understand monetization models and best practices, and are able to implement them, project leaders are trying to increase the chance that the game as a whole will be profitable and that the monetization model and gameplay are well balanced. Michael (male, 30s), a studio game design director at a large mobile game developer, who previously worked with monetization specialists but not in his current job, said:

> Personally, from a design philosophy for me, I'd like the monetization to be thought of as integrate[d into] the gameplay experience. I find it that when the role is segmented from the regular game designers then it tends to be tagged on, so like the designers design the game and then the monetization people add the monetization on top. I don't think that's the right way to make games.

Adding monetization tasks to the portfolio of game designers is one way to pursue the agenda of integration as also supported by the results of our content analysis. Out of the 100 analysed job descriptions that included the keyword monetization, we identified 24 as game designer positions. Another option is to assign monetization to roles with general management and mediator responsibilities, such as producers (31), who by default operate across different departments, or to so-called creole professions (O'Donnell 2014), which emerge at the interfaces between established video game development disciplines. Live ops (6) is an example of the latter, as their job of supplying post-release content is often directly tied to the game's monetization model but also combines producer and game design qualifications.

Analytical Skills and Market Knowledge

What is shared across the majority of the 100 analysed monetization-related roles is an emphasis on analytical thinking (78 per cent). The more specific data analysis proficiency is less common but still highly represented in our corpus (67 per cent). These results echo previous observations about the emergence of data analysis as a core skill in video game production (Kerr 2017; Whitson 2019). Monetization is a highly metrics-driven discipline as it is directly related to business performance. This is also why general data

(and business) analyst positions include monetization as one of their areas of interest. Even game designers dealing with monetization are expected to possess an analytical mindset (75 per cent, 18 out of 24). Our interviews supported these findings. For example, Peter (male, 50s), the freelance monetization consultant, said that 'designers, specifically in the free-to-play space, need an analytical mind as well.'

Another frequently required skill is market knowledge (62 per cent) – the understanding of current trends and best practices. Game development, especially in the mobile sector, is generally characterized by a high level of imitation (Van Roessel and Katzenbach 2020) and it is safe to assume that this extends to monetization models and their implementation. Therefore, game developers with monetization responsibilities are expected to have a thorough knowledge of other successful games and their monetization models, so that they do not need to reinvent the wheel when it comes to designing and implementing microtransactions. Notably, market knowledge is less frequently expected of data analysts (36 per cent, 5 out of 14), perhaps because the required academic qualifications are deemed sufficient in this regard or due to the fact that the people assigning analytical tasks (and not the analysts themselves) should be the ones knowledgeable about competition. The two other skills that we coded appeared relatively rarely on the level of the whole corpus: game design in 33 per cent and management in 19 per cent.

Based on the required skills (i.e. analytical mindset and market knowledge) as well as the fact that game design itself is less frequently required, it can be argued that monetization is less of a creative discipline but rather a task depending on optimization, testing, and perpetual tweaking. As such, it rewards rigorous methodology, as evidenced by the number of related types of university degrees recommended or required in the job listings. On the subsample of 66 positions that required a university degree of any level (Bachelor, Master, or PhD), the most frequent were STEM degrees, such as computer science or statistics (42 per cent, 28 out of 66), followed by finance and economics (30%, 20 out of 66) and business school education (21 per cent, 14 out of 66). Game development-specific degrees appeared only in 14 per cent of the cases (9 out of 66). Among all the 8 roles from the corpus, university education was most prominently required for data analysts (93 per cent, 13 out of 14).[2] Game designers and monetization specialists were on the opposite side of the spectrum, requiring a degree in 50 per cent (12 out of

2 All programmer and user researcher job listings required a university degree or listed it among recommendations, however due to the small size of these subsamples (3 and 1, respectively) these results are inconclusive and thus excluded from this comparison.

24) and 54% (7 out of 14), respectively. The emphasis on formal education for data analysts was also noted by Michael, when asked about the department of analytics at his company: 'Those are people much smarter than I am. I've never been with so many people with PhDs in the same room actually.'

Selective Disclosure

Based on our content analysis, the controversial status of monetization does not seem to affect the job descriptions. In fact, the wide range of jobs that in some way deal with monetization suggests that, from a professional perspective, this is an accepted part of the game development process (see Alha et al. 2014). This relatively open admission of the role of monetization is likely possible due to specific targeting of these job listings as they are not meant for players and fans but are instead distributed via special channels, which general audiences do not normally frequent. Furthermore, a job description should be accurate if it is supposed to attract suitable candidates. In the one-to-one interviews, our respondents also talked openly about the role of monetization expertise in video game production and emphasized its importance throughout the process, especially in freemium game development.

On the contrary, the analysis of in-game credits shows that only 2 out of the 57 (4 per cent) of freemium games provide any information about roles directly related to monetization expertise. Such a low number is largely caused by the general absence of any in-game credits in the analysed freemium games; only 19 per cent (11 out of 57) feature some form of in-game credits. In contrast, all premium games from the sample include detailed in-game credits, with roughly half (47 per cent, 7 out of 15) also listing roles related to monetization. While there might be many more people involved in monetization implementation and optimization, the analysis of in-game credits is limited by the job titles and as was evident from the content analysis, a wide range of professions can engage in these tasks beyond monetization specialists. Nonetheless, the information about the developers responsible does not seem to be kept secret in premium games, although some companies do not list roles dedicated specifically to monetization.

Discussion

Despite our efforts at data triangulation, this empirical analysis can still only present a limited snapshot of monetization as a game development

task and role. Due to the focus on jobs related to monetization, we cannot comment on their proportion within video game production as a whole. Although at its core an exploratory study, this chapter presents the first systematic analysis of the production context of monetization, encompassing both freemium and premium games,[3] which are often treated separately despite employing similar monetization strategies. In this sense, our findings suggest that monetization expertise is equally sought for by mobile and AAA studios.

From a methodological perspective, this chapter attempts to enrich the tool set of production studies by providing a mixed methods framework for studying particular professional roles and tasks. While all the three types of empirical data have been previously used in research of video game production, including job listings (Kerr and Kelleher 2015) and in-game credits (Bailey, Miyata, and Yoshida 2019), combined they offer a potential solution to the problem of shadow academy. This is particularly relevant for any exploration of a controversial issue such as video game monetization, but it can also provide valuable insights into less exposed aspects of video game production.

Conclusion

Despite the ongoing scholarly interest in video game monetization, this issue has been critically approached nearly exclusively from the perspective of players (cf. Alha et al. 2014). This chapter takes a different approach and highlights the production context of monetization. By taking a closer look at a specific video game production task, this chapter adds to the production studies literature about particular professions. Our findings show that monetization-related duties are both handled by specialists but also integrated into existing and emerging video game development professions. The latter approach is partly motivated by practical reasons, especially in smaller studios, which cannot afford to employ a full time monetization expert, but also by the need to design games with monetization in mind from the early stages to make sure that the result is a viable commercial product. As such, monetization responsibilities find their way into job descriptions of game designers and producers among others. Monetization itself is often understood as a data-driven discipline and requires either

3 This applies primarily to the analysis of job listings and in-game credits. The interviews focused only on the freemium sector.

a more general analytical mindset or specific data analysis proficiency. Despite being considered an important part of the production process by developers, monetization is downplayed in communication towards general audiences, especially in freemium games, which in general obscure the production context by not providing in-game credits. Future research but also game development educational programmes can benefit from these findings, by acknowledging the integrated nature of monetization both when looking at the game design implications of microtransactions and player attitudes and behaviours.

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11. Regulating In-Game Monetization: Implications of Regulation on Games Production

Matthew E. Perks

Abstract
A widening gap exists between the understanding of regulation 'on the books' and how regulation is exercised in practice. Utilizing the concept of regulatory space, I examine the on-going regulation of 'loot box' monetization within the video game industry. Over the period of 2014 to 2018, several legislative attempts to regulate loot boxes have occurred internationally. While each of these pieces of regulation, whether successful or not, is framed within specific nation-states, the shifting landscape of regulation surrounding monetization impacts production and consumption of games worldwide. I argue for a de-centred approach to examine regulation of loot boxes to incorporate the global interconnections of various actors, including corporations, nation state governments, consumers, and independent regulatory bodies.

Keywords: regulation, monetization, loot box, game industry, regulatory space

Introduction

Law and regulation are often presented as an all-encompassing set of principles applied evenly across society (Darian-Smith 2013). This perspective applies to how individuals generally think of regulation within industries, such as the video game industry and its long history of regulating sexual and violent content in games. However, individuals, and by extension institutions, are not passive recipients of regulation, but instead influence and shape law and regulation around them (Darian-Smith 2013). Much of the current

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literature surrounding the intersection of law and society is centred around the state, but as society becomes increasingly globalized, new dynamic analyses are necessary for the processes of regulation, production, and consumption in industries that are fast-moving, and platform dependent, such as the video game industry. The video game industry is emblematic of many of the other entrepreneurial technologically inclined industries that continue to grow through the platformization of cultural production (Nieborg and Poell 2018). Examining how regulation processes occur, and impact this particular industry and its surrounding cultures and communities, helps to better understand regulation as a more generalizable process. One such case where regulation and the video game industry intersect is on the issue of monetization.

Recent shifts in monetization, or how developers generate revenue from its users, have resulted in new social crises surrounding the regulation of these industries (Dyer-Witheford and de Peuter 2009; Nieborg 2011; 2016). As certain forms of monetization are deemed to be exploitative (such as the use of user data in generating advertising revenue or through the use of gambling-based mechanics), the study of monetization represents a new area of inquiry in games production studies and how they can be examined to understand production and consumption more contemporarily (Albarrán-Torres and Goggin 2014; King, Delfabbro, and Griffiths 2010), including how processes of critique impact industry practices (Perks 2019).

These gambling-like modes of monetization, commonly referred to as 'loot boxes,' have been a focus within critical games journalism, and in recent years have been a target of regulation by state and non-state actors. Attempts at regulation vary in success and failure, dependent on the relative power and position of those involved. For instance, China introduced targeted regulation towards gambling-based mechanics in games, while countries like Singapore previously attempted but ultimately could not pass legislation resulting in meaningful impact in developer practices. This paper provides a historical tracing of the loot box regulation controversy focused at its arguably most critical moment within the United States. Ideally, this will be indicative of the challenges associated with regulating emerging methods of monetization and the potential implications regulation has for production and consumption practices within the video game industry.

The regulation of loot boxes is an ongoing process and continues to develop to this day. However, the period between 2017 and 2019 saw increased international attention towards loot box regulation in games. I would argue that examining past cases of legislation is effective in determining the role of state and non-state actors for future regulation. This paper outlines theories

of regulatory space to help better understand the processes of regulation in the video game industry. I offer a contextualization of the current state of loot box regulation in the United States as it has developed between 2017 and 2019 using regulatory space as a theoretical lens. I draw upon journalistic writing published between this period on periodicals such as games-focused news sites *Polygon, PCGamer,* and *Kotaku* as well as more traditional news sites such as *CBC News, The Wall Street Journal,* and *CNBC*. This framework and case study illustrate how the complexity and pluralistic nature of modern regulatory structures occurs over time. I particularly focus on the relative power of discrete actors in the industry and how future attempts at regulation can work towards handling emerging methods of monetization, and potentially other developing forms of commodification. Finally, I discuss how the use of regulatory space ultimately requires a rethinking of regulation and how regulatory actors and those within these impacted industries approach it altogether. This paper concludes with a discussion for game studies scholarship to pay more attention to the role and process of regulation and law in games production.

Regulatory Space in Game Production

Capitalism is increasingly reliant on a complex interdependent relationship with regulation (Levi-Faur 2017). As corporations, such as video game studios, aim to accumulate as much capital as possible, they operate within systems of regulation and control that work not in public interest but to mediate these processes of capital accumulation (Ibid.). Regulation is widely considered a state process (Levi-Faur, 2014; Majone, 1997). However, the concept of regulatory space expands upon this conception and highlights the many different actors and processes of regulation that may impact games production. This approach builds upon Natasha Tusikov's (2016) work, which examines the interdependent processes of state and corporate actors, expanding the understanding of how regulation and actions by corporations shape the access and services available to individuals online.

Colin Scott (2001) argues that regulation should be considered a complex system of interdependent actors working with disparate resources. These resources can include knowledge, power, capital, or organizational capacity. This understanding of regulation pushes back against traditional thoughts on regulation, which, as previously mentioned, typically think of regulation as one centralized regulator, such as the state. In the video game industry, this means that to more accurately analyse regulation of games production

other actors need to be considered, such as game studios, lobbyist organizations (such as the Entertainment Software Association), self-regulatory organizations (such as the Entertainment Software Rating Board), more traditional governmental bodies, and consumers. In addition, it is key to avoid reducing these actors to a rigid hierarchical relationship, but rather to think of them as independently acting regulators within a larger space of regulation (Ibid.).

Reform of regulation by any actors can be understood as a renegotiation of the regulatory space. As the resources possessed are dispersed amongst many different actors, regulation reform is to be understood as a renegotiation of these resources between stakeholders (Ibid.). Traditional ideas of what regulation reform might look like typically are state-centred, such as government interventions. However, using regulatory space it is possible to consider how other stakeholders can become involved, such as games critics, consumer groups, smaller independent studios, and other actors in the industry. While there is often extensive government involvement in regulation reform, the concept of regulatory space proposes that the renegotiations based on the interdependence and bargaining of other actors are just as critically important for analysis (Ibid.). With all of these moving parts, it is important to think about how regulation may have far-reaching implications that are applied disproportionally to different actors – such as how regulations may impact independent game studios versus larger, massive video game companies such as Electronic Arts or Ubisoft.

The metaphor of regulatory space offers a more holistic approach to understanding regulation in the video game industry while also providing a more critical framework for mapping the power of different actors. Power in regulation is often considered to be determinative, and held solely by one actor, however Scott (2001) argues that there are alternative, informal forms of power and authority, which have to be acknowledged. In the video game industry, this could include the power of developers to organize and self-regulate, of consumers to utilize their purchasing power to influence development practices, or the work of third-party lobbyist groups to influence government legislation. As different forms of wealth, organization, or knowledge are dispersed across these many actors, their interdependence grows regardless of whether the power is formal or informal. For instance, certain controversies within the video game industry have resulted in different forms of self- and industry regulation due to the consistent coverage and power of critical games journalists (Perks 2019).

The work of regulation, then, as argued by Scott (2001), is standard setting and interpretation within industries. Regulations that are too specific are

often difficult to reinterpret or renegotiate, however, those that are too general often require more effort to define what does or does not fall under their regulation. This act of interpreting regulation is often done 'live' and amongst the regulators and communities that they impact (Scott 2001). Cycles of interpretation, adjustment, and discussion are more common rather than outright enforcement of regulations, making the process of regulation better defined as an act of constant re-shaping. The metaphor of regulatory space offers a more holistic understanding of the many ways renegotiation of regulation takes place, arguing for a potentially more collaborative understanding of governance in industries. It challenges the capacities of law and regulation, imbuing them with reflexivity and responsiveness, which is more accurate of what is observed in contemporary, fast moving industries like video game production.

Regulation within all industries is complex and the video game industry is no different. I argue that the video game industry is an ideal site to utilize the metaphor of regulatory space to examine the implications of regulation on games production. In addition, developers themselves are increasingly trying to collectively organize for unionization under the grassroots organization, such as the Game Workers Unite, which represents a potential new form of self-regulation in this industry (Weststar and Legault 2019). Overall, the video game industry offers an opportunity to unpack processes of regulation as they occur in real time, across different issues, and in conversation with the many different stakeholders. This live interpretation, renegotiation, and regulation between actors will be explored in the following section where I trace the period between 2017 and 2019 concerning the attempted and ongoing regulation of loot boxes in the United States.

Loot Boxes and Star Wars

Freemium monetization is the increasingly common standard within the video game industry. One form of freemium monetization is the use of loot boxes. Loot boxes can usually be purchased in-game with real world currency and opened for a chance to win select items from a larger pool of variable rarity and desirability (Koeder and Tanaka 2017). The emergence of loot box microtransactions draws similarities to traditional forms of chance-based gambling, such as slot machines (Heimo et al. 2016; Nielsen and Grabarczyk 2018; Spiker 2017; Zagal, Björk, and Lewis 2013). Loot boxes are examined within this analysis due to their prominence as a mode of monetization throughout the video game industry and the recent regulation controversies

surrounding them (Abarbanel 2018; Almaguer 2019; Schwiddessen and Karius 2018). Linked to traditional gambling, loot boxes represent complicated hurdles for government regulation with a few successful legislative actions occurring internationally (De Kervenoael, Palmer, and Hallsworth 2013; Sithigh 2014). Just as more general regulation varies internationally, it is important to remember that gambling regulation does so as well, making loot boxes a difficult object to regulate globally.

This analysis is primarily drawn from journalistic writing that was published during the period of November 2017 to early 2019. I selected articles from games publications, scholarly games writing, mainstream writing on the topic of loot boxes, and critical games writing on loot boxes. This includes more traditional journalism, such as *The Wall Street Journal*, to more games industry focused writing, such as that found on *Polygon*. As I have argued elsewhere, journalistic writing impacts practices within the video game industry (Perks 2019). Calls for regulation typically originate from media, if there is no outcry regulation does not take place, once action is taken in the response of regulation the media then assesses it. For those articles that reference specific actions by third-parties, such as the Electronic Software Ratings Board (ESRB) and Entertainment Software Association (ESA), these documents were examined. However, I draw mainly on writing that covers these organizations' actions as I believe it is the response surrounding them that is most important to this article. Utilizing these pieces of writing, my analysis mainly serves to create a linear narrative capturing the different actors, their responses, and their negotiations in these moments of regulation. I do so in order to make apparent the many different moving pieces involved in regulation within an industry and how it can impact production, consumption, and labour.

These controversies became a key moment in the video game industry following the introduction of loot boxes into a critically acclaimed series and IP. Prior to the launch of *Battlefront II* on 17 November 2017, developed by Electronic Arts as an action-shooter video game based on the Star Wars film franchise, there was an immediate backlash to the introduction of loot boxes into the game (see Alexandra 2017; Frank 2017; Ore 2017). A large amount of content within the game (characters, cosmetics, upgrades, etc.) was locked behind a 'soft' paywall. Though these items could be unlocked through repeated play, players were upset that those willing to pay or 'gamble' their money, could unlock them quicker and arguably have an advantage over other players in the online competitive modes. This marked a controversial synthesis of microtransactions (Švelch 2017), typically found in freemium games developed by smaller studios (Nieborg 2016), with the production

value and size of a AAA multibillion-dollar game studio (Nieborg 2011). Players found themselves in a situation where publishers expected them to pay a high initial cost in addition to chance-based microtransactions to efficiently access all game content.

These criticisms quickly filled video game journalist sites, official and unofficial forums, and social media platforms. In response, developers of *Battlefront II* cut the prices of the loot boxes and ultimately disabled microtransactions altogether prior to the official launch of the game (Frank 2017). This controversy continued for many months (see Alexandra 2017; Ore 2017), and, at the time of writing in mid-2019, continues to unfold in the form of legislation, public statements by large studios, and tongue-in-cheek jabs by competitors. In the United States alone, several different lawmakers responded with attempted legislation for loot boxes. In addition, third-party organizations made efforts to educate and self-regulate the industry. All of this amidst a complicated relationship between developers, who arguably still work to make profit on their games, and their consumers, who felt a right to equitable and 'fair' monetization of the games they purchased. This section details a timeline of regulatory events from the start of the *Battlefront II* loot box incident in 2017 to the time of this manuscript's writing in 2019.

Before 2017, legislation already ruled that gambling within games using virtual currency was legal, so long as there were no ties to real world currency or value. However, this ignores the fact that loot boxes and other in-game purchases are originally bought with real world currency, even if they do not have any real-world value to be converted to after. It also overlooks the effects of problematic gambling, which can see individuals significantly impacted monetarily through repeated or excessive purchase of these loot boxes with responsibility for these actions placed solely on the individual (Alexius 2017). At the time of writing this chapter, loot boxes remain minimally regulated in the United States. Currently, most gambling laws specify that something of value must be received for an act to be considered gambling. While the ESRB has a seldom used rating of Adults Only (AO) when 'real gambling' is contained in a game, retailers rarely stock games with this rating and therefore developers and publishers do not often market them. While the items received from many loot boxes may not have a real-world exchange value, this current system nonetheless disregards that these items can hold other value (rarity, desirability, aesthetic value, etc.).

Following the initial discovery that *Battlefront II* would rely heavily on loot boxes during early access to the game, there was an initial negative outcry from consumers as early as October 2017. This included forms of boycotting and harassment campaigns on the studio's social media. While this may

initially not appear as a form of regulation, it is important to remember that regulatory space is made up of many actors, which can include consumers, and that actors possess varying forms of power. In this case, the initial response from consumers represented a form of consumer or purchasing power, which when exerted on Electronic Arts, resulted in the initial cutting of loot box prices and their subsequent removal from the game. However, rumours circled that it was pressure from Disney, the holding company of the *Star Wars* franchise, which resulted in the last-minute removal of all microtransactions (Needleman and Fritz 2017). In addition, this level of outcry from the gaming community was followed with an intense cycle of reporting on the loot box issue by video game journalist sites. These articles focused mostly on the role of the ESRB and the ESA in regulating developers and monetization more generally. It should be noted that the ESA and ESRB were both established by major video game companies themselves as a lobbyist organization and self-regulatory organization respectively.

The initial response from the ESRB and ESA was that loot boxes were not gambling, of which they stressed the voluntary and optional nature of their purchase and use (Schreier 2017). This was followed by several other developers who agreed that their use of loot boxes should not be considered gambling, and thus not regulated (Kerr 2018). Internationally, this echoed other statements by Electronic Arts officials who stated that loot boxes were, 'actually quite ethical and quite fun, quite enjoyable to people' in a United Kingdom parliamentary hearing (Bailey 2019). This framing by the ESRB, ESA, and large studios placed the onus on consumers to regulate themselves. Considering the regulatory space they were working in, they arguably enforced a massive amount of organizational capacity in an effort to control the image of loot boxes and how they would be considered by the public. Furthermore, they sought to avoid any direct regulation that would impede upon their business or require an alteration to current practices.

Consumers and journalists, however, were not satisfied with this initial response from all parties and continued to then pressure lawmakers to act. Hawaii state lawmakers first spoke out saying they would look into the issue of loot boxes and would attempt to introduce legislation as early as possible (Plunkett 2017). However, they noted that it would be beneficial if the industry chose to regulate itself. States would prefer industries regulate themselves, as it is often difficult to enforce legislation that is either too specific or too general. The work of balancing between the two is both time and resource consuming for states. Instead, the government attempted to put the onus on developers, but noted it would still act if necessary. During

this time, various small and independent developers came out against loot boxes, noting that they would not be implemented in their games. At the Electronic Entertainment Expo (E3), the premier trade-event for the video game industry, certain developers publicly took a jab at studios that monetize using loot boxes (Farokhmanesh 2018). Meanwhile, the iOS application store, where iPhone owners can download and purchase games for their phone, introduced regulation for developers according to which they must disclose the odds of loot boxes sold over the platform (Kuchera 2017).

Each of these cases represents different actors working within the regulatory space around the issue of loot boxes. Each actor possesses different forms and levels of power in these renegotiations. In addition, while the state may have been the focus of much of the initial reporting around loot box regulation, we can see how the actions of developers, consumers, and journalists are all equally important to understanding how regulation unfolds within an industry, and how it may unfold for other issues in games and similar future issues in other industries. While the initial bills introduced by Hawaii state lawmakers would eventually fail (Brestovansky 2018), the overall conversation continued to take place throughout 2018.

In January 2018, Washington lawmakers introduced legislation ordering the Washington State Gambling Commission to investigate loot boxes to determine if they should be considered gambling or if they would require specific forms of regulation (Mitchell 2018). Next month in February, another lawmaker in the United States brought up the issue of loot boxes to the Federal Trade Commission (FTC). The FTC eventually urged the ESRB to review how they approached loot boxes, specifically the 'completeness' of their review and regulation process as a pretense for future regulation that may come from the state (Crecente 2018). Following this, the ESRB agreed to now label games that included in-game monetization, such as loot boxes, and rolled out an educational campaign targeting parents on how to handle loot boxes and other in-game purchases (Schreier 2018). However, ESRB still asserted that loot boxes were not gambling and did not need to be regulated as such.

Several other states also attempted to regulate loot boxes. In April 2018, Minnesota lawmakers introduced a bill to prohibit the sale of games with loot boxes to those under 18. In May 2019, a Missouri senator introduced a bill that would ban loot boxes and pay-to-win microtransactions. The International Game Developers Association (IGDA), a non-profit association meant to support game developers, urged the industry to self-regulate to avoid state regulations. The IGDA proposed several areas for the industry to target, including not marketing loot boxes to children, to disclose the

odds of loot boxes, and to educate parents (Santangelo 2018). Outside of state involvement, OpenCritic, a review aggregation website for video games meant to aid consumers, started to include information on loot box content in games (Gach 2019). Most recently, in August 2019, the ESA stated that several large studios including Microsoft, Nintendo, and Sony would begin developing requirements for loot boxes to disclose odds in game, and that other publishers and studios within the ESA would also follow suit (Hall 2019).

Discussion

The initial lack of regulation surrounding loot boxes combined with their profitability arguably made them attractive for developers. However, as David Levi-Faur (2017) would argue, the newly introduced regulation of loot boxes also acts as an incentive towards other forms of monetization, ones that may be more ethical. In the case of *Battlefront II*, Electronic Arts shifted their monetization towards directly purchasable virtual items over loot boxes, which could arguably be considered to be more ethical. When regulated, these processes become institutionalized and attractive for other economic actors. Regulation can be a method of defining, creating, and regulating new behaviours and is perhaps crucial as modern monetization continues to develop (Levi-Faur 2017). However, regulatory capitalism fails to account for the plurality of actors and interactions of regulation in practice. The metaphor of regulatory space offers the necessary framework to track these renegotiations around industry practices and to better understand the actors and resources that are engaged.

Regulatory capitalism posits that regulation is to be expected, especially as certain forms of capital accumulation are proven to be profitable, and this was truly the case with loot box monetization. As pointed out earlier, freemium monetization is increasingly utilized in the video game industry resulting in high profit margins for studios (Nieborg 2016). However, as showcased in the case study above, this process is messy and requires specific attention to all parties involved, including consumers, journalists, third-party organizations, and lawmakers. Regulatory space offers a clearer understanding that can trace these actors and pays close attention to modes of power that are engaged in renegotiations. The introduction of these theories, and potentially others from the discipline of law and society, is critical at a time when the video game industry is increasingly called to regulate its practices, communities, and products.

Regulation arguably acts as a mediator between these relationships and negotiations (Scott 2001). In addition, it goes further to 'constitute and mediate' these processes of capitalism (Levi-Faur 2017, 289). While it appears that more traditional forms of regulation may be slow-moving or unsuccessful in the United States, there are clear cases highlighted where other forms of regulation or use of power is more successful. For example, while several bills have failed, power exerted from consumers, journalists and lawmakers pressuring the ESRB to re-evaluate their ratings and policies has led to acknowledgement of in-game monetization on labelling and the creation of an educational campaign for parents. In addition, this same pressure led to the FTC working alongside the ESA, which represents large multi-billion-dollar companies like Nintendo and Sony, leading to announcements by these and other studios that they would begin disclosing the odds of loot boxes in their games.

While the focus of this chapter was limited to the United States, it is important to consider the globalized nature of the conversation surrounding loot boxes. Regulatory space is a metaphor that can be stretched not simply to new areas like game studies, but also internationally. China has successfully been able to regulate loot boxes, and did so before the initial outcry resulting from *Battlefront II* (McAloon 2016). However, developers there have worked around the limitations, though certain policies like the disclosure of odds are still arguably successful (Ziebart 2017). In addition, there have been past attempts to regulate loot boxes in countries like Singapore, all of which could be examined more closely using a law and society lens (Wee 2014). As argued previously, bringing together more traditional theories utilized in game studies, such as platform capitalism and economic platform studies of monetization, combined with more underutilized theories from the discipline of law and society provides new insights into how this industry functions and will proceed. Moreover, how future shifts in the industry's monetization or other industries may begin to be traced.

Conclusion

For now, loot boxes appear to be a turning point for the video game industry. As legislative processes continue to unfold internationally and self-regulatory groups shift blame, resorting to tactics of avoidance, it is key to trace and understand the actors involved in these processes. The role of state and non-state actors is dependent on their power within these spaces and directly shapes how they can negotiate. Effective regulation of loot boxes, and other

forms of commodification, is then not centrally located, nor dependent on any single actors. This lends itself to the notion that alternative forms of regulation should be considered outside of traditional legislation by state actors. In addition, other forms of regulation may be more successful, and arguably have been when examining how video game companies continue to respond to pressure, resulting in transformation within industries.

In the case of *Battlefront II*, it was not any direct state regulation that resulted in meaningful change to their monetization. Instead, it was a combination of rumoured pressures internally to avoid any damage to the *Star Wars* franchise too close to the release of their next blockbuster hit and crisis management on the part of Electronic Arts to avoid losses. In the end, Electronic Arts did report losses and placed the blame mainly on the loot box issue itself (Sarkar 2018). In addition, they would later note that loot boxes would still be present in future games. This crisis itself still led to changes within the wider industry, as some developers noted that they would not be including loot boxes in their games to avoid any ethical or PR issues (Cleaver 2017; Messner 2017). Whether or not Electronic Arts decides to keep loot boxes, their original implementation of them, the regulatory response, and the resulting negotiations between different actors changed how the industry and developers view loot boxes.

While the United States has yet to successfully introduce any meaningful regulation, other countries have been more successful. This further complicates the practices of developers as they increasingly must contend with differences between states. In the case of Belgium, which successfully introduced legislation to ban loot boxes, companies have been pushing back against the regulation (BBC News 2019). As this paper argues, regulation and the renegotiations that surround it do matter for issues of production and consumption of games. Game studies scholars interested in the intersections of the industry, the games developers produce, and the conditions under which they work should pay close attention to how they play out. As the industry begins to grapple with unionization (see Weststar & Legault, 2019) and as the issue of monetization continues, studies that focus on regulation and trace its relative failures, successes, and impacts throughout the industry will prove to only expand on the scope of game studies more broadly. In the case of Electronic Arts, they appear to be trying to re-frame the definition of loot boxes in hopes of sliding past regulations. Meanwhile, actions are being taken by other developers and third-party organizations to either confront or avoid this controversy altogether. Ultimately, regulation undeniably shifts and changes developer practices and it is important to understand that there is no single actor working through these negotiations throughout these spaces, but rather, many players on the board.

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Regional Perspectives

12. Promises of the Periphery: Producing Games in the Communist and Transformation-Era Czechoslovakia

Jaroslav Švelch

Abstract
This chapter addresses the notion of the peripheral in computer game production. Peripheral contexts of cultural production and consumption may be portrayed as lagging behind the centre, less formalized, and exhibiting low production values and high degrees of piracy. I want to offer a way of de-centring the study of game production by arguing that periphery can be a thriving environment, both commercially and creatively, producing many overlooked but original, quirky, and idiosyncratic titles. The chapter discusses the promises of the periphery by analysing the output, the discourses, and the business models of 1980s and 1990s Czechoslovak games based on interview material, as well as textual analyses of games and gaming magazines of the era.

Keywords: game industry, periphery, Soviet bloc, Czechoslovakia, bricolage, amateur production

Introduction

The story goes like this: In 1989, Karvina Corporation, named after the Czechoslovak city of Karviná, released a game called *Killswitch*, which, for a short time, captured the attention and imagination of students at American colleges. It was a strangely offbeat experience of the survival horror variety. Playing as one of two characters, the goal was to ascend from the bottom of a coal mine. The player fought 'dead foremen, coal-golems, and demonic inspectors from the Sovatik corporation' and revealed terrible events that transpired in the mine – the mine's foremen, under pressure to increase

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coal production, had started 'to falsify reports of malfunctions and worker malfeasance,' eventually even torturing poor miners. Except for some red, the game was monochrome, and set to slow MIDI versions of Czech folk songs. Yet, the most innovative element of the game was the ending. Once the player finished the game, the program erased itself and could not be retrieved, making it impossible to replay the game with the other character. Despite the demand, Karvina Corporation never produced more than the initial run of 5000 copies, and only a few – if not just one – copies survive. One of those copies has reportedly been sold on eBay for 733,000 USD.

However appealing, the story of *Killswitch* is fictional, and comes from the eponymous 2013 short story by the science fiction writer Catherynne M. Valente. It was, nevertheless, believable, at least to some. Disconnected from its source material, *Killswitch* grew into an international urban legend, fascinating fans and journalists, who debated its presumed existence and dissected its faked YouTube videos (Grammer 2014; *Kotaku Australia* 2016). Why did the story gain such traction? For one, some of the facts within it were superficially credible. There were, indeed, coal mines in the city of Karviná, just as there was pressure on maximizing coal production within state socialist economies. Stories of obsessive collectors paying enormous amounts for obscure games are likewise often true. There is, however, a second, arguably more important, reason for the appeal of the *Killswitch* hoax. The game's presumed origin in the Soviet bloc situates it an undocumented peripheral void where one can project their own fantasies. Western players knew very little about game production in Czechoslovakia, making it an ideal point of origin for an obscure and forgotten title.

The story of *Killswitch* builds on the West's othering of the Soviet bloc as an exotic locale full of strangeness and mystery, very much akin to orientalism. At the same time, stories like this also highlight the *promise* of the periphery. In its usual sense, a periphery is seen as lesser than, and dependent on, a centre. Seen through this lens, however, a periphery is a space of opportunity and possibility – a space for alternative histories and modes of production that may challenge the rules and norms of the centre. *Killswitch* was never real, yet there were games that may seem equally strange. In one, a worker must fulfil repetitive tasks in a labyrinthine factory while being verbally abused by their superior (Zlámal 1988); in another, Indiana Jones fights the police during an anti-regime demonstration (Znovuzrozeny 1989). This chapter will use the example of 1980s and early 1990s Czechoslovakia (and, more generally, the former Soviet bloc) to evaluate the potential of game production on the periphery. It draws on the research I conducted

for the recent monograph *Gaming the Iron Curtain* (Švelch 2018), as well as additional interviews and textual analysis.

Understanding Peripheries

Although much of game production studies focuses on relatively central locations, the interest in the peripheries has been on the rise. In fact, any research looking at gaming as a global phenomenon must address the role of non-central regions. The *Gaming Globally* volume from 2013 contains chapters on India and the Middle East, as well as my own piece on former Czechoslovakia (Huntemann and Aslinger 2013). Another collection, *Gaming Cultures and Place in the Asia-Pacific* offers case studies from Australasia, China, and South Korea, all of which once were (and by some measures arguably still are) peripheral contexts (Hjorth and Chan 2009). There is further work on Poland (Majkowski 2018) or China (Wirman 2015), as well as a number of historical accounts (Swalwell 2012; Wasiak 2014; Nicoll 2019; also see Wolf 2015). None of them has, however, elaborated on the very concept of *periphery*. In order to do that, I borrow primarily from film production studies, with the starting point being the edited collection *Cinema at the Periphery* (Iordanova, Martin-Jones, and Vidal 2010a).

Although the word periphery is primarily tied to location, it can denote many more things than just a place that is removed from a centre. As Dina Iordanova and her colleagues put it, 'the concept of periphery is not fixed and static but dynamically adjusts to a range of shifting patterns of dominance in spheres such as industry, ideology, and taste' (Iordanova, Martin-Jones, and Vidal 2010b, 8; see also Szczepanik, Zahrádka, and Macek 2020). Peripherality is relational, meaning that – to use a game history example – the UK could be peripheral in relation to the US, but central in relation to Czechoslovakia. It is also domain-specific, meaning that, for example, Germany could be a centre of the auto industry, but a periphery of digital game production. Iordanova et al. view the peripheral 'as a mode of practice, as a textual strategy, as a production infrastructure, and as a narrative encoded on the margins of the dominant modes of production, distribution, and consumption' (Iordanova, Martin-Jones, and Vidal 2010b, 9). This chapter pivots around two aspects of the periphery inspired by this list: first, production infrastructures, and the associated economic and regulatory contexts; second, textual strategies and aesthetics employed in peripheral works.

In terms of infrastructure, I draw inspiration from recent research on informal media industries by authors like Ramon Lobato and Brian

Larkin, who work with peripheral case studies, particularly the Nollywood film productions in Nigeria. Their research shows that peripheries do not just simply adopt and accept the content that is coming from the centre. Peripheral actors build their own makeshift and informal distribution networks, creating their own 'infrastructural order that preys on the official distribution of globalized media' (Larkin 2008, 220). Peripheries challenge the Western-centred thinking about media production. They can be places where piracy is the default way of accessing popular culture, and where low-budget or homebrew productions are the default way of producing it. As Lobato has put it, these are settings where 'informality is a norm, not an aberration' (Lobato 2012, 40).

In terms of textual strategies, postcolonial theory presents an important reference point (Gandhi 2014). According to postcolonial scholarship, the colonial project entailed not only economic and political, but also cultural subjugation and exploitation. The empire made the colonies (peripheries) and colonial subjects into props in its own stories and usurped the power to interpret native cultures. To the colonies, on the other hand, the centre was the source of prestigious culture. In today's technology and media industries, the centres, like Silicon Valley, remain sources of symbolic power for peripheral practitioners, as shown in the ethnographic work by Yuri Takhteyev. In his view, 'local participants orient themselves toward such meccas in an attempt to draw on their symbolic power and to bring the local practice closer to the remote standards' (Takhteyev 2012, 208). But the colonies and peripheries can also 'play back.' Souvik Mukherjee (2017) follows the history of the game of cricket to show how the British-originating sport was adopted by Indians and reframed as a means of getting back at the Brits. Ulf Hannerz has similarly pointed out that receiving culture from the centre does not necessarily mean 'losing' local culture. In his view, the peripheral perspective creates new, *creole* forms, which are shaped by local context (Hannerz 1989), and may result from the textual practice of *bricolage* (Lévi-Strauss 1966). These forms may include Bollywood or Nollywood films, as well as Central and Eastern European point'n'click adventures of the 1990s.

In the third part of the chapter, I discuss the evolving relationships between the periphery and the central cultures and markets. When establishing connections, peripheral producers are clearly at a disadvantage compared to established and economically more powerful central players. While the periphery is indeed often exploited, it also affords unique opportunities. In their influential study of media and multiculturalism, Ella Shohat and Robert Stam observe that the 'received geographies of "core"

and "periphery" are being disrupted and relocated southward and eastward' (Shohat and Stam 2014, 396), pointing out that both Bollywood and Nollywood produce more feature films than Hollywood. In entrepreneurship and regional development research, the benefits of the periphery have been noted by Alistair R. Anderson. Investigating the rural economies of Scottish highlands, he traces the 'commodification of non-material and aesthetic values' of the periphery. In his view, 'those very conditions that characterized the poverty and isolation of the periphery are turned on their head, [and] the "otherness" of the periphery has become a potential advantage' (Anderson 2000, 91, 101). Translated to media production, peripherality can preserve obscure or obsolete practices that may yet become useful or lucrative in the future, or generate new forms and practices derived from the local context.

Peripheral Infrastructures

One of the prominent features of peripheral production is what Iordanova et al. have called 'infrastructural dearth' – the lack of access to resources and distribution channels (Iordanova, Martin-Jones, and Vidal 2010b, 2). In the 1980s, when video and computer game industries were booming (and busting) in the West, there was next to no hardware or software market in Czechoslovakia despite the growing popular demand. In 1989, there was just one specialized home computer retail store in the country, and even that one was severely understocked. Official imports were limited by import embargos, lack of funds in Western currencies, and the general rigidity of the state-run economy. At times, foreign exporters used the country as a final destination for discounted stock of machines that would not sell in the 'centre' – including obscure platforms such as the Sharp MZ-800. Nevertheless, most users bought their micros abroad or on the black market. The British Sinclair ZX Spectrum, originally released in 1982, became the country's number one microcomputer platform thanks to its low price and versatility. Its position was solidified by the release of a domestic clone, Didaktik Gama, in 1987. By 1988, estimated 100,000 users owned a Spectrum-compatible computer.

The infrastructural dearth also explains the absence of Western and Japanese video game consoles in the country. The console business model at the time required a stable infrastructure of import and distribution of cartridges, which was non-existent in the Soviet bloc. Microcomputers, on the other hand, cost more but could be easily used with pirated software.

With a few exceptions, no original copies of games were sold in Czechoslovakia. There were no commercial publishers because private enterprise was effectively illegal, and state institutions did not publish software either. As the public intellectual and computing enthusiast Bohuslav Blažek wrote of home computing, 'what powered the most massive commercial boom in America's history, was [in Czechoslovakia] a mere source of minor odd jobs' (Blažek 1990, 15). In such a setting, it was unlikely there would be a Karvina Corporation; at least, it would not be a corporation in the usual sense of the word.

Infrastructural dearth was accompanied by a lack of regulation, also typical of peripheral contexts. Czechoslovak authorities tightly controlled public and economic life, and meticulously censored traditional media, from literature to popular music. They even levied exorbitant customs fees on individually imported computers. They did not, however, find computer games worth censoring, taxing, or protecting by copyright. There are several possible explanations. Games were a relatively niche pastime, easily overlooked by the aging bureaucrats in charge of the country. Neither did the people in power realize that computer games were a medium capable of delivering subversive messages.

In place of the missing infrastructures, local computer fans formed their own on the foundation of existing, state-sponsored frameworks. As it was illegal to publicly convene without official backing, home computer users established an extensive network of amateur computer clubs within the existing infrastructure of paramilitary and youth organizations. To the state, the clubs posed as benign spaces where students prepared for their future jobs in the socialist military or economy, giving the authorities little reason to closely monitor them (Yurchak 2006). In reality, these clubs became busy places where the youth played Western games, made their own, and traded software and know-how. Moreover, the clubs became important hubs of an efficient informal distribution network, which soon encompassed the whole country. Users freely swapped and copied both foreign and domestic software, sometimes in person, other times by mail. Such repurposing of existing infrastructures is common in peripheral, not yet formalized media productions. In 1980s Poland, for example, computer hardware and software were often sold at large outdoor markets (Wasiak 2014). The distribution of Nollywood film production also relies on a loose network of street vendors (Larkin 2008). A differentiating feature of 1980s Czechoslovakia as compared to other peripheries was the relatively limited role of for-profit piracy, as there was little business for pirates when most software was shared through non-profit computer clubs.

Before 1989, virtually no money could be earned by making games. Most of the authors were high school or college students with plenty of free time and good connections within the community. They wrote games to impress their peers, tell their own stories, and sometimes – as I show later – to voice their opinions. Compared to US and Japanese industrial productions, and even the British 'bedroom' programmers, the local scene was strictly do-it-yourself. As one of the country's most influential coders, František Fuka, put it in 1988: 'The few individuals that make games in our country can naturally hardly compete with teams of specialists, for whom making games is not only fun, but also a job (a paid one, of course)' (Fuka 1988, 11–12). In the 1980s, their peers in foreign commercial studios tended to utilize 16-bit machines and specialized development tools to write 8-bit games. Czechoslovak hobbyists, however, mostly worked on a single, sometimes even shared computer. As a result, local games tended to be less ambitious than the Western ones. Around half of the local 1980s Spectrum games were text adventures, which were relatively easy to code, and did not require graphics. Neither of these limitations, however, prevented local amateurs from producing at least three hundred titles that have survived to this day – suggesting that communal homebrew production is a viable way of making games.

Peripheral Textual Strategies

Czechoslovak 8-bit games did not follow a single style or aesthetic. Instead, various peripheral forms developed in response to the games that arrived from abroad. Due to the dominance of the Sinclair ZX Spectrum, Czechoslovak hobbyists played plenty of games from the countries that produced Spectrum software, especially the UK and Spain. British and Spanish games were, in turn, often inspired by the trends in American and Japanese game industries. Czechoslovakia's connections to the contemporary game industry centres were therefore facilitated by a string of intermediaries. Conversely, US and UK developers had little knowledge of how their games are being used in the Soviet bloc, and did not intentionally 'colonize' its markets. The process was much more complex and two-sided.

Due to its amateur (or, to use a more contemporary term, homebrew) nature, most domestic production was based on the practice of bricolage. In Claude Lévi-Strauss's original account, the bricoleur is introduced alongside the engineer as two contrasting, though often overlapping, types of creative practice. While the engineer proceeds from a conceptual blueprint to

procure required materials, the bricoleur 'addresses himself to a collection of oddments left over from human endeavours' and has to 'make do with "whatever is at hand"' (Lévi-Strauss 1966, 19, 17). While Lévi-Strauss respects bricolage, he clearly situates it on the periphery – as an approach typical of old-fashioned tinkerers and handymen as well as pre-modern tribal peoples occupying the margins of the Western world. After all, bricolage is a practice well suited to contexts with limited resources.

Czechoslovak homebrewers, too, composed their works using scraps of code, mechanics, and audiovisuals from Western titles. Western games circulated in pirated copies that lacked original paratextual information, and only a few copies of Western magazines made it into the country. Czechoslovak homebrewers therefore had access to the game software but very limited knowledge of the production processes behind them (see Šisler, Švelch, and Šlerka 2017). To use a parallel from linguistics, they knew the texts but did not know the grammar. Local bricoleurs were aware of their peripheral position but did not know – or did not have to respect – the conventions or legal constraints that applied in the centre. To them, the meanings and uses of games as a medium were remarkably flexible.

Many of the locally produced titles were ports, conversions, or clones of foreign titles (Švelch 2018). As peripheries are often home to obsolete or obscure platforms, remaking hit games for those platforms was an essential component of homebrew efforts. Throughout the 1980s, local homebrewers also engaged in plenty of mimicry. Western-sounding labels like Demon Ltd. or Ninja Soft did not refer to actual companies, but to local high-schoolers mimicking the labels they saw in Western games. One of the teenagers, Tomáš Rylek, assumed the label T.R.C. to mimic the famous British studio Ultimate Play the Game, also known as A.C.G. Using programming tricks learned by dissecting Western titles, he wrote *Star Fly* and *Star Swallow,* a couple of shoot 'em-up games, which could be – at first sight – mistaken for professional Western productions (Rylek 1987a; 1987b). On closer inspection, it becomes apparent that the mechanics are much less fine-tuned and that the English language throughout is non-native (a high score table, for example, exclaims: 'Hurrah to the carcasses!') But Rylek's work was not just an adoration of Western idols by a peripheral creator. By mastering the genre, himself and the community also expanded their creative repertoire and gained much-needed confidence.

Local games contained familiar (from the Western point of view) characters, scenarios, or game mechanics in unfamiliar combinations. Indiana

Jones, for example, became a popular character in Czechoslovak amateur games. First appearing in the 1985 text adventure *Indiana Jones and the Temple of Doom* (Fuka 1985), he appeared in at least six more popular text adventures during the decade. Unrestrained by popular culture canon or copyright, he was even allowed to use the weapons of Ghostbusters (in Fuka's aforementioned title), or to beat up Communist police on a Prague square in one of the most remarkable Czechoslovak activist games (Znovuzrozeny 1989). John Rambo made at least two appearances, once as the main villain fighting a Soviet hero in the satirical text adventure *Shatokhin* (Hrda, Hlaváč, and Sybilasoft 1988), and once in the game *Jack Frost '88* by Karel Papík (1988).

The latter game's title collage exemplifies the aesthetic of peripheral bricolage. It contains pieces of 'cool' Western content, which Papík cut and pasted from British games – Rambo's portrait, the two throwaway ninjas, and the ominous subtitle 'Do or Die.' In fact, neither Rambo, nor the ninjas explicitly appear in the game, although the title image does invite the player to identify with a Rambo-like hero. At the same time, some of the images ground the game firmly in the final years of the Cold War. The map of the Soviet Union is covered with barbed wire and laid over with a crosshair, promising a confrontation between the West and the East, and the title refers to the Soviet fairy tale film, called *Jack Frost* in the English release, but well known as *Mrazík* in Czechoslovakia (Papík 2019). The goal of this illustrated text adventure is to infiltrate a Soviet army base and steal important documents. Playing on the reference to Jack Frost, it is also a fairy tale of sorts, but an anti-Soviet rather than a Soviet one. At the time of the game's release, mockery of Soviet icons was quite common among many young people, who found the Communist ideology oppressive and outdated, and whose cultural allegiance was with the West.

While adopting influences from the centre, a periphery can also give birth to idiosyncratic genres and design approaches. Members of the domestic developer community often cited each other or made unofficial sequels to others' games, creating a series of indigenous trends. After all, local text adventures (also called *textovky*, singular *textovka*) emerged as a specific ('creole') subgenre – shorter, less complex, more comedic, and more personal than the English-language ones. Another local specialty was the hacking game genre, in which the player cracked puzzles to connect to simulated computer networks. The initial inspiration came from the British game *System 15000* (Kristofferson 1984) – but while hacking games remained obscure in the West, more than 25 of them were released in Czechoslovakia, many of them in *The Sting* series started by František Fuka. Similar local circuits of influence, along with inspiration from local culture, have led to

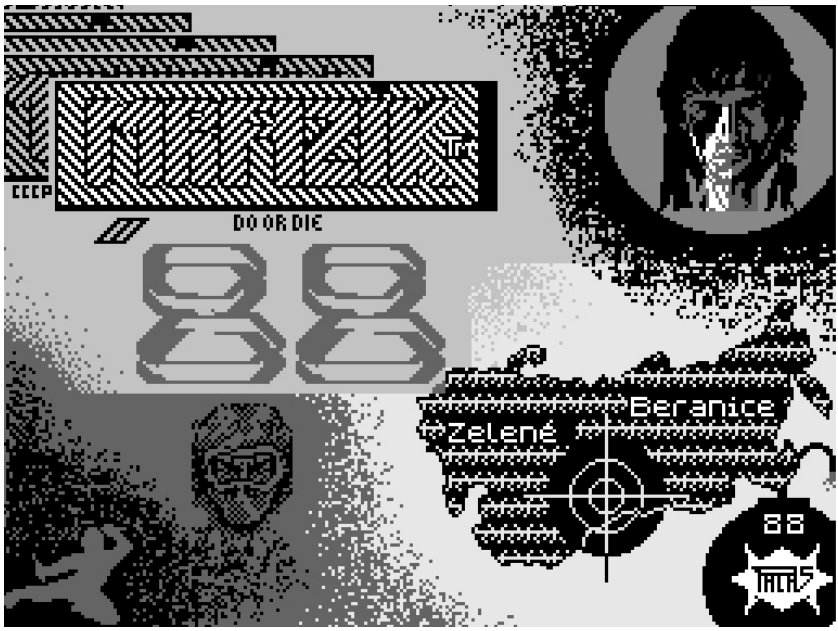

Figure 12.1: Loading screen of *Jack Frost '88* (Papík 1988). Artwork used with permission of the author and copyright owner Karel Papík.

the emergence of regional or national design styles, like the so-called 'British surrealism' or 'French touch', both of which are defined in opposition to American or Japanese production (Donovan 2010).

Connecting the Periphery

The relationship between Czechoslovakia (and its successor countries) and the centres of game industry evolved over the years, revealing several roles that a peripheral game production can play in relation to a centre. During the Soviet era, the connections to the West (and Japan) were mostly one-way. Czechoslovak amateurs drew inspiration from pirated foreign games but domestic production generally did not make it out of the country. Borrowing from Henry Jenkins (1992) and Michel de Certeau (1984), it could be said that the periphery was *poaching* from the centre.

After November 1989's Velvet Revolution, the Iron Curtain fell, the Communist regime was dismantled, and private enterprise reintroduced. Czechoslovakia (and later, since 1993, the Czech Republic and Slovakia) became much more connected to the outside world but remained on a periphery. Although the citizens were now free to travel and import

technology, they nonetheless remained poorer than Westerners. Due to high prices of imported games, informal distribution continued to play a major role throughout the 1990s. While the centres have already transitioned to 16-bit gaming hardware, many Eastern European players stuck with their 8-bit machines. This peripheral position, however, created opportunities for local producers. One of the country's first commercial game publishers was Proxima, based in the Northern Czech city of Ústí nad Labem, itself a periphery. Its co-founder Petr Podařil initially attempted to distribute software for IBM PCs, but soon realized the opportunities of the ZX Spectrum market, by then largely abandoned by Western publishers. Proxima bought distribution rights for some of the 1980s local hits, recruited talent among alumni of 1980s computer clubs, and published over two dozen titles, sold mostly through mail order. Interestingly, local 8-bit software publishing houses, including Proxima, initially piggybacked on the manufacturing infrastructure of the already established music industry, taking advantage of the latter's tape duplication facilities (Podařil 2015; Hrda 2016).

While most of the commercially published games were original works, it took some time before the social norms and copyright legislation adapted to the Western standards. The Proxima-published *Atomix* (Rak and Matoušek 1990), for example, was an unlicenced and slightly modified conversion of the recent Amiga puzzle title with the same name (Softtouch 1990). As Podařil comments, 'no one had the slightest idea' about the line between legal inspiration and copyright infringement (2015). To use another example, a game like *Somari* (Somari Team 1994) – a mash-up of Sonic the Hedgehog and Mario – seems to be desirable but unthinkable in the West or in Japan, but was actually produced somewhere in the Asian periphery and became successful in the Soviet Union. As Lobato and Julian Thomas point out, the 'distinctions between legal and illegal conduct, between productive trade and non-productive piracy, and between formal and informal economies are inevitably leaky' (Lobato and Thomas 2015, 62). Although this was not the case of Proxima, a number of Eastern European video game publishers started out with piracy in the 1980s, built an audience for their products, and gradually legalized their businesses during the transformation era (Ozimek 2018).

While the periphery might have run on obsolete hardware, it would be wrong to assume that it was simply delayed. Rather, it had its own *parallel markets* focusing on other platforms or other genres (see Švelch 2017). Proxima's programmers closely followed the developments on more advanced platforms, bringing new genres to old computers. In 1991, the company published *The Name of the Rose* (George K. 1991), a point-and-click adventure for the Spectrum inspired by *The Secret of Monkey*

Figure 12.2. Title screen of *The Name of the Rose*, advertising that Peter Sellers stars as Jacques Clouseau. The newspaper clipping shows an ambulance driving a hospitalized Umberto Eco. Artwork used with permission of the author and copyright owner Jiří Koudelka.

Island (Lucasfilm 1990). Rather than an adaptation of the Umberto Eco novel, it was a free-wheeling pastiche of content that was popular at the time or dear to its author, Jiří Koudelka. The game takes place at a female convent in the present day, and the main character is inspector Clouseau from the Pink Panther films. Unsurprisingly, it also includes references to Indiana Jones (namely, his whip) and other icons of Czechoslovak ZX Spectrum gaming. Reflecting the flamboyant atmosphere of the 1990s transition to capitalism, the game also features crude sex jokes, several sex scenes (although told mostly through text descriptions), and a cameo by the then-famous German erotic TV game show *Tutti Frutti*. The game was marketed as an adult-only title, which made it especially attractive to teenagers. With around 1,300 copies sold, it was already considered a commercial success (Jiří Koudelka, personal communication). An even more ambitious (but quite somber) 8-bit point'n'click adventure *Twilight: Land of Shadows* (Dekan, Javor, and Grellneth 1995) was released as late as 1995 by the Slovak publisher Ultrasoft, and became the company's last published title. Peripheries thus continue to serve older platforms after they become obsolete in the centre.

Point'n'click adventures were just as popular on more advanced platforms like the IBM PC or Commodore Amiga. Taking advantage of the language barrier and lack of official localization, local developers developed titles written and dubbed in the local language, addressing local themes and using local cultural references. At a time when original copies of foreign games were still unaffordable, Czechoslovak adventures such as the fairy-tale-themed *Dragon History* (NoSense 1995) were cheap, homely, and humorous, offering a welcome and affordable alternative to Western production.

More recently, the periphery has served as a supplier of *niche games*. Thanks to the parallel markets, several genres survived on the peripheries after they fell out of favour in major markets. This way, 2D point'n'click adventures continued to be made in Germany thanks to companies like Daedalic Entertainment, and Western-style computer role-playing games were kept alive thanks to European companies like CD Projekt Red (based in Poland) or Piranha Bytes (based in Germany). Some of their titles have been called *Eurojank*, a term referring to the lack of polish of certain low-to-mid-budget European titles (Finlay 2019). At the same time, they appealed to the international audiences because of their novelty and distinctiveness. Local aesthetic and thematic influences help peripheral productions stand out in global competition, as in the cases of Czech studios such as Amanita Design, who married point'n'click adventure games with the tradition of Czech animation, or Warhorse Studios, who set their recent role-playing game *Kingdom Come: Deliverance* (2018) in medieval Czech lands.

The flipside of peripheral production is *outsourcing*, which positions peripheral developers as a source of cheap labour (Kerr 2017). While often seen as a relatively contemporary trend, in can be traced back to the 1980s Soviet bloc. Already in 1985, the American publisher Strategic Simulations, Inc. (SSI) sold games produced by another US firm Logical Design Works, headed by the California-based Polish immigrant Lucjan Wencel. His company, in turn, outsourced its operations to the Polish studio called P. Z. Karen Co. Development Group (Mańkowski 2020). The Polish team later started developing original games for the Western markets under the label *California Dreams* and produced titles such as the hot rod racing game *Street Rod* (P. Z. Karen Co. 1989), which took place in 1950s United States. Despite these admirable successes, P. Z. Karen was a de facto subsidiary of its American mother company, which did not outlast the shifting economic fortunes of the 1990s (Ozimek 2018).

Table 12.1: Features of peripheral productions

Infrastructures	Infrastructural dearth
	Lack of regulation
	Informality
	Amateur/homebrew networks
Textual strategies	Bricolage
	Mimicry
	Creole forms
	Niche platforms/genres
Connections to centre	Poaching
	Parallel markets
	Supplying niche products
	Outsourcing work

Conclusion

The Czechoslovak (and, more generally, post-Soviet) story has revealed a wide range of features of peripheral game productions, as summed up in Table 12.1. The infrastructural aspects like scarcity, informality, and lack of regulation gave rise to a set of peripheral textual strategies such as bricolage, mimicry, or creole forms. The infrastructures and textual strategies, together with the inequality between the periphery and its centre(s), encouraged certain kinds of relationships, including poaching, parallel markets, niche productions, or outsourcing. The table should be, however, understood as an inspiration for further research rather than an exhaustive list, as it derives from empirical material from a very specific region and a very specific historical period.

Some of the peripheral features present creative and economic opportunities. As Aphra Kerr has pointed out in her work on the global game industry, 'alternative ideas, genres, content and groups can emerge in unlikely places' (Kerr 2017, 153). At the same time, peripheral production also has its risks and deficiencies. A large part of global game production (as well as hardware production) is outsourced into countries whose lack of labor regulation results in poor working conditions or unfair pay, as demonstrated by Anna Ozimek using the example of Polish testers (2019; see also Vanderhoef and Curtin 2016). At the same time, some regions – such as the former Soviet bloc – are at a risk of being portrayed as a haven for companies that produce titles like *Active Shooter* (Acid Software 2018) or *Hatred* (Destructive Creations 2015), which offer troubling content (and questionable quality) in the name

of free speech. Such production is more socially permissible in countries like Russia or Poland, respectively, due to the fact that critical discussions about game representation have not fully permeated their industries (see Majkowski 2018). Fortunately, such products are still vastly outnumbered by original and imaginative games like *Machinarium* (Amanita Design 2009) or *Superhot* (Superhot Team 2016).

To return to our initial example, how do the features of peripheral production match up with the fictional example of *Killswitch*? Could a game like *Killswitch* be produced in Czechoslovakia in 1989? Many aspects of *Killswitch* did, in fact, appear in 1980s Czechoslovak game production. One could find activist titles that were critical of the Communist regime or made fun of everyday life in the socialist economy; local homebrewers likewise did come up with several left-field ideas and technical solutions – although a self-erasing computer game was not technically possible even in Czechoslovakia. On the other hand, *Killswitch* seems too elaborate and polished to be a Czechoslovak game from 1989, where most games were made by amateurs. There could be no Karvina Corporation – and even if there was, all foreign trade was tightly controlled, and a game that criticizes the socialist mining industry was unlikely to be cleared for international distribution. There were some satirical games taking place in factories – like *TOL* (Zlámal 1988) or *Karma* (Misterka and Hertl 1988) – but these were fairly simple, amateur games that were never commercially released. From the point of view of Western cultural industries, the behaviour of local amateurs – who gave games away for free – would have been economically irrational. This irrationality is one of the main themes of the *Killswitch* story, whose drama arises from the fact that Karvina Corporation ignored the demand for their games and only released them in limited runs.

So, while the *Killswitch* story is inspiring in making one think about alternative histories and alternative sources of gaming, it has one fundamental shortcoming. Understandably as a piece of fiction written by an American author in a collection of short stories about Japan, the value it ascribes to the game derives from its reception by American college students or Japanese collectors – as if the centre (and the price in US dollars) was the only arbiter of the cultural value of strange artifacts coming from the periphery. But if the centre really wants to understand and appreciate the periphery, it should not insist on being able to purchase, play, and enjoy its products. The takeaway for game scholars is that the periphery should be studied on its own terms, regardless of whether its products make it 'big' in central markets and cultures.

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13. Construction and Negotiation of Entrepreneurial Subjectivities in the Polish Video Game Industry

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Abstract
Using the framework of critical creative labour studies, I discuss Polish video game workers' construction and negotiations of 'entrepreneurial subjectivities'. Drawing on secondary sources and 44 interviews, I position Polish video game workers' perspectives within the economic and socio-cultural context of a post-socialist country. I argue that entrepreneurial discourses were developed in relation to the industry's socio-historical development, the government's promotional initiatives, and on-going precarization of employment in the Polish labour market. This contribution discusses the tensions between claimed meritocratic nature of the industry and pervasiveness of informality; between the requirements of sociality and the exclusionary mechanisms of local occupational community; between the interviewees' acknowledgement of inequalities and the emphasis on individual responsibility and resilience.

Keywords: game industry, creative labour, Poland, entrepreneurial subjectivities, post-socialist, game labour

Introduction

In Poland, we have one of the best video game development companies. And this is so surprising and so strange because what we do not have is an innovative economy; we do not make cool things. We just put together foreign cars, foreign fridges, we grow apples, and suddenly we have video games (Karol, 30s, male, scriptwriter).

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The above quote sums up the unusual aspect of the video game industry's development in Poland. Despite its turbulent past, Polish video game companies have achieved international success. The foundations of the Polish video game industry were established during the times of the Polish People's Republic, when the local video game industry and culture developed through grey technology markets, which provided local video game hobbyists with hardware and software from Western countries. Major Polish companies originated from their initial operations as distributors and localizers of Western video games before entering video game production (Kosman 2015). The Polish video game industry consists of approximately 400 video game studios, not including divisions of international publishers hosted in the country, and companies specializing in providing support services for video game companies worldwide (Bobrowski et al. 2017). The international success of video games developed in Poland attracted the attention of the Polish government, which started to promote the video game industry as an innovative and promising branch of the national economy. Despite this celebratory atmosphere, much less is known about the work of the people behind the video games developed, localized, or tested in Poland. Drawing on an analysis of secondary sources and 44 semi-structured interviews with Polish video game workers and video game industry representatives, this chapter contributes to studies about video game production by investigating the development of the Polish video game industry and its workforce.

In recent years, there has been a growing interest in investigating video game production and its workforce from a variety of disciplines, including anthropology, media, business, and management studies (Dyer-Witheford and De Peuter 2009; O'Donnell 2014; Weststar 2015). Since the start of my research project about the Polish video game industry in 2014, this body of research has expanded significantly, and now includes discussions about independent video game production, video game education, investigation of inequalities, creativity management, and different occupational roles (e.g. Harvey and Fisher 2015; Harvey 2019; Kerr and Kelleher 2015; Ruffino 2013).

This body of research also encompasses an exploration of national and regional dimensions of different aspects of video game production (Jørgensen, Sandqvist, and Sotamaa 2017), also in Central and Eastern Europe, including historical investigations of informal video game distribution networks, hardware production, or gaming cultures (Švelch 2018; Wasiak 2012), and overviews of the video game industries (Budziszewski 2015). There have also been attempts at providing comparative perspectives about industry

development, particularly between the Czech Republic and Iran (Šisler, Švelch, and Šlerka 2017) and between Germany, Sweden, and Poland (Teipen 2008). While these studies provide important contributions to understanding the local video game industries, they rarely discuss subjective experiences of video game work. Therefore, this chapter addresses this gap by exploring perspectives of video game workers based in Poland.

In this contribution, I position the experiences of Polish video game workers within studies about creative labour (Gill 2011; McRobbie 2016; Scharff 2017). Drawing on a neo-Foucauldian approach to creative labour and the concept of entrepreneurial subjectivity, I discuss the strategies and attributes that workers apply or possess to manage any uncertainties pertaining to their career prospects. The propagation of entrepreneurial values is understood as the result of historical socio-economic changes that removed previously known institutional and organizational buffers of economic risk (Neff 2012). In a broad sense, these changes are associated with the rise of flexible work patterns and the shift of responsibility from employer to employee. The purpose of this chapter is twofold. First, I explore the construction of a specific entrepreneurial discourse about the foundation and development of the Polish video game industry. Second, I interrogate Polish video game workers' understandings about their own work and their negotiations of entrepreneurial subjectivities.

This chapter is structured as follows. Firstly, I articulate my theoretical position in relation to studies about creative labour. Secondly, I discuss the construction of 'entrepreneurial' discourse about the Polish video game industry and its workforce. In the third section, I focus on the negotiation of workers' entrepreneurial subjectivities in three instances: a) understanding oneself as an enterprise; b) disavowal of inequalities; and c) negotiation of competing discourses. In the conclusion, I show that the construction and negotiation of entrepreneurial subjectivity leads to a dismissal of structural problems in the industry and contributes to the maintenance of the status quo in the Polish industry.

Video Game Workers and Video Game Production Studies

The majority of inquiries about video game workers' working lives approach them from the perspective of autonomist Marxism (e.g. Bulut 2015; Dyer-Witheford and De Peuter 2009). The use of autonomist Marxism is not incidental, as this approach not only positions workers in the centre of the debate about the changing landscape of work, but also discusses a possibility

of workers' resistance under a post-Fordist regime. Nonetheless, autonomist Marxism has been criticized for its notorious vagueness of terms, limited engagement with ideas about gender, failure to recognize material forms of exploitation, and excessive optimism (e.g. Hesmondhalgh and Baker 2011).

Therefore, in this chapter, I investigate subjective experiences of Polish game workers through a neo-Foucauldian approach, which has been widely used and discussed by scholars specializing in the analysis of creative work (McRobbie 2016; Scharff 2017). The idea of enterprise and its relation to new forms of workers' subjectivity has been derived from Foucault's (2008) lectures about the development of the neoliberal art of government. His discussion encompasses not only an understanding of enterprise as a social institution, but also its extension to human subjectivity. Foucault (2008, 226) argues: 'the stake in all neoliberal analyses is the replacement every time of homo *oeconomicus* as partner of exchange with a homo *oeconomicus* as entrepreneur of himself' (emphasis original). Through this understanding, the notion of enterprise is associated with neoliberal governing and its values. Further interpretations and extensions of Foucault's ideas focus on a discussion about the implementation of neoliberal policies (Miller and Rose 2008), and, as a result, the construction of a particular neoliberal subjectivity based on discourses produced by social institutions. Neo-Foucauldian approaches gained popularity in studies about creative labour as a critical response to the celebratory approaches to creative industries debate (e.g. McRobbie 2016). Apart from the interest in produced discourses, scholars were also interested in the exploration of a subject constituted through a neoliberal regime (e.g. Scharff 2017). The investigation of the construction and negotiation of entrepreneurial subjectivity lies in uncovering specific practices that enforce entrepreneurial behaviour, from compulsory networking and careful reputation management to narratives emphasizing the embracement of risk and framing oneself as a resilient subject (Neff, Wissinger, and Zukin 2005).

Nonetheless, a neo-Foucauldian approach to creative labour presents some limitations. Stephanie Taylor and Karen Littleton (2012) demonstrate, in their research about the construction of creative identities, that a neo-Foucauldian approach accuses creative workers of 'false consciousness' or being 'disillusioned' about their work. Taylor and Littleton indicate that possibly positive elements of creative work (such as autonomy, creative expression, or collegiality) are interpreted merely as a base for (self-)exploitation. In a similar vein, David Hesmondhalgh and Sarah Baker (2011) argue that these approaches to creative labour lack normative grounding, as they do not provide an explanation of what could constitute 'good' work under

capitalism. The above-mentioned authors raise valid concerns. However, despite their criticisms, they do not question the validity of this approach; they even confirm that their research findings are comparable to findings in research inspired by a neo-Foucauldian approach.

Taking this criticism into account, I follow Christina Scharff's (2017) understanding of the limitations of the neo-Foucauldian approach. Scharff argues for a presentation of various, often competing discourses that intersect with the construction of entrepreneurial subjectivities. The construction of entrepreneurial subjectivities therefore relies on narratives of constant becoming and redefinition rather than being a stable entity. Conversely, it should not be approached and presented in a deterministic sense, but rather as Mark Banks, Rosalind Gill, and Stephanie Taylor (2013, 7) argue: 'there is therefore a need to avoid the various caricatures of either the cultural dupe or the rational maximizer of information or (economic) benefits, in order to develop a fuller notion of the creative worker as a subtly responsive and interpreting situated subject.'

Constructing an Entrepreneurial Discourse About the Post-Socialist Game Industry

The financial success of major Polish video game developers attracted the attention of the Polish government, which started promoting video game production as a Polish specialty and an important export commodity. The Polish government's promotion of the video game industry as a new, innovative branch of the country's economy was reflected in the investment in infrastructure (technology parks), promotional actions started by Polish embassies (Liebe and Tielebier 2014), and funding for research and development initiatives (GAMEInn). However, as in the case of the creative industries debate (Garnham 2005), the promotional campaigns and investments were mostly oriented towards the government's interest in the potential economic contribution of the video game industry. Promotional campaigns and discussions about the role of video games focused on the possible positive aspects of working in the industry, with an emphasis on the new employment opportunities and skills development.

The problems regarding workers only appeared in discussions about worker shortages and their potential consequences for the industry (see Bobrowski et al. 2017). As a result of these discussions and reports, the government initiated a social campaign, Programuj.gov.pl, in 2017. The campaign used such slogans as 'Making games is better than playing games'

and 'Code, make money, change the world' (WPHI Washington 2016). The campaign relates to the discourse of 'work-as-play', often evoked in studies about creative and new media workers, by suggesting that working in the video game industry is not only financially, but also intrinsically satisfactory.

The promotion of the Polish video game industry was not only relying on campaigns that were discussing work in the industry as an attractive form of employment; the campaigns also mobilized specific aspects of the history of Polish video game companies. For instance, the foundation of the Polish video game industry and its association with informal distribution channels and grey technology markets contributed to the construction of a romanticized discourse about the first video game producers and distributors. This part of the history of the Polish video game culture attracted the most academic (Wasiak 2012) and journalistic attention (Kosman 2015) to the already well-known anecdotes that many major Polish companies (from the distribution and production sectors) started their operations through participation in the informal distribution channels, including IPS and Mirage Software (now Cenega) (Piekara 1999), CD Projekt (Piekara 1998), and Techland (Kosman 2015).

Through this romanticized discourse and the entrepreneurial narratives, video game creators were framed as pioneers of a capitalist system who succeeded despite facing political and economic difficulties (Filiciak 2016). Mirosław Filiciak (2016, 4) argues that in the mid-1980s and mid-1990s, the video game press started to build a narrative about the Polish video game industry that presented it as 'a synonym of modernity and independence.' This perspective contributed to the particular construction of 'Westernized' entrepreneurial subjectivity, as people associated with video game production were portrayed as winners rather than losers within the transitioning economy. The persistence of this discourse is propagated through the media, industry-produced reports, and in government-supported rhetoric. The discourse about the heroism of the first Polish video game creators was visible in the Digital Dreamers exhibition in the Palace of Culture and Science in Warsaw in 2016 (see Filiciak 2016). The exhibition, supported by the Polish government, was also featured in Polish embassies in countries such as the United States and China ("Video Games from Poland Featured at Gaming Exhibition in Shanghai" 2017). The narrative of the entrepreneurial values and skills of the first Polish video game creators was also discussed by the owners of video game companies themselves. For instance, the co-founder of CD Projekt, Marcin Iwiński, described grey technology markets as 'incubators of Polish entrepreneurship' (KręciołaTV 2016). The further development of this narrative is visible in international coverage of the

success of Polish companies, from *Piracy to Billions – How Poland Became a Video Games Nation* (Murphy 2018) to *This Is Poland: From Communism to Video Game Wellspring* (Polygon 2014).

Discourse about the development of the video game industry and the entrepreneurial values shared by its founders is not limited to Poland, but it is also visible in broader narratives about new media industries and video game industry development in other countries associated with their industry's 'rebelliousness' (Dyer-Witheford and De Peuter 2009) or techno-libertarianism (Borsook 2000). These narratives echo what Banks (2007, 6) addresses as 'entrepreneurial war stories', and they are also prevalent in the socio-historical development of other cultural industries. In this sense, discourses put forward by the local media outlets, industry representatives, and the Polish government present a reinterpretation of stories about Silicon Valley and tech companies through the context of post-socialism. In a similar manner, discourses about the Polish video game industry rarely acknowledge deep inequalities in the distribution of entrepreneurial resources or the role of the state in the development of the industry. The celebratory accounts also often overlook the challenges experienced by video game workers.

Negotiating Entrepreneurial Subjectivity

An average Polish video game worker is a 31-year-old man; a highly mobile worker spending, on average, 2.5 years at one company (Bobrowski et al. 2017). While the government-sponsored reports often present workers through an optimistic perspective by emphasizing their skills, high mobility, and opportunities for development, they often do not include a comprehensive overview of working conditions in the industry. During my fieldwork, I collected data that illuminated the problems experienced by video game workers and questioned the optimistic perspectives presented in these reports. It has been estimated that around 75 per cent of workers in the Polish industry are hired on civil law contracts (Bobrowski et al. 2017). Interviewees confirmed the prevalence of these types of contracts and their precarious situation in the employment market. Experiences shared by video game workers in this study presented familiar narratives of uncertainty regarding project-based labour, anxiety, long working hours, and difficulties in reconciling working and family lives (e.g. Bulut 2015; Consalvo 2008). Findings presented in the following section are based on an analysis of semi-structured interviews with 41 video game workers and three key industry representatives. The interviews were conducted between autumn 2015 and

winter 2017. Interviews were conducted in the Polish language and translated into the English language. Furthermore, to protect my interviewees and third parties, I decided to present the interviewees' quotes under pseudonyms and with only vague descriptions of their occupational positions.

In this research project, I approached my interviewees through the development of their careers and work biographies. I recognized that my interviewees shared a variety of work experiences. They had experiences of fulfilling different occupational positions and working in different sectors of video game production. This diversity of experiences is important to recognize for two reasons. First, it indicates the dynamic and scope of video game production activities as well as the heterogeneity of workers' experiences. Second, despite the variety of experiences, all of the interviewees in this study engaged in affirmation, negotiation, or negation of the entrepreneurial rhetoric.

Understanding Oneself as an Enterprise

In studies about creative workers, scholars discuss various strategies that workers apply to find employment, and thrive in an often unstable and highly precarious work environment (McRobbie 2016). Drawing on Lois McNay's (2009) conceptualization of understanding oneself as an enterprise, Scharff (2017) explores varieties of strategies that workers use in maximizing their employment opportunities. These strategies refer to the forms of self-commodification that encompass investments in self-development opportunities, careful reputation management, and compulsory networking.

My interviewees argued that the Polish video game industry is a relatively small community in which 'everyone knows everyone' and 'everyone drinks with everyone'. The Polish industry, similar to other cultural industries, relies on informality as a structural principle (see Gill 2013), as finding employment, acquiring clients, and advancing in one's career all take place mostly outside the formal structures. Consequently, interviewees adopted a variety of self-entrepreneurial strategies to manoeuvre around their uncertain landscape of work. Despite the growing number of video-game-development-related courses in Polish private and public educational institutions, interviewees often questioned the idea of obtaining a degree as a viable option for finding employment in the industry. Instead, video game workers emphasized the importance of self-development (such as experiential learning) and access to networking opportunities.

The reliance on informal networks requires, as one of the interviewees put it, development of 'personal politics' (Robert, 20s, male, junior game designer). Robert, who started his career in the industry as an outsourcing tester, argued that he managed to advance his career thanks to strategic networking with people from the industry. All interviewees in this study agreed that employment opportunities are mostly acquired through personal contacts, like in Piotr's case:

> For a while, I did not know what to do next. And it did not work out at [a company's name]. The only thing they could offer me was some tele-consulting or something like that, and it was only for two to three months. […] I had graduated from a video game course, I did not have money, and I was in a really poor situation. But then I got an invitation to [the conference title]. […] And I met [a company's owner name] at the conference, and we went together to a party, we talked, and he said they had an open position for a junior game designer (Piotr, 20s, male, game designer).

The majority of the interviewees constructed entrepreneurial subjectivity in the hope of acquiring better career prospects. However, the informality of these close networks also raises questions about boundaries of inclusion and exclusion in the Polish video game industry. It has been well documented that informal structures contribute to inequalities in the distribution of job opportunities (Gill 2013). Similarly, in my interviews, access to networks was obstructed for people who did not fit within the profile of a stereotypical game worker: particularly, young, white males without family obligations.

In order to acquire skills and secure future career opportunities, interviewees discussed their career development through engagement with a variety of unpaid or underpaid positions, which game workers addressed as work 'for CVs' or 'for portfolios' (see Fast, Örnebring, and Karlsson 2016). Interviewees also admitted that they were aware that major companies tended to pay not so much in salaries, but in prestige associated with particular game projects: as Patryk (20s, quality assurance) explained it, '[…] in Poland, even the most famous companies, especially with regards to the lower-level workers, […] pay them in "prestige" and not money.' The careful management of one's portfolio even at the expense of one's well-being and financial security was a prevalent theme in my interviews. The engagement with unpaid and underpaid work raises questions about the prevalent belief in the meritocratic nature of the industry – the belief that hard work will

eventually lead to a dream job. This approach has been exemplified by Tom, who worked in a PR department at a AAA development studio:

> Yes, it is extremely hard work, yes, it is unfair, and yes, they will exploit you. But in the end, you have on your CV that you have worked on [a game title]. And this is good for both your work experience and your work ethic (Tom, 40s, male, PR).

This embracing of risk and entrepreneurial ethos is also a part of the construction of entrepreneurial subjectivities (Scharff, 2018). Tom's opinion provides further valorization of this entrepreneurial ethos through an emphasis on 'hard work' and 'work for experience' even at the expense of being exploited. This approach echoes the construction of entrepreneurial subjectivities, as workers should not only apply strategies that will maximize their career opportunities, but should also possess specific attributes associated with 'being an entrepreneurial' person. In other words, the video game workers were portrayed, similarly to creative workers, in Angela McRobbie's words (2016, 74), as 'the cheerful, upbeat, passionate, entrepreneurial person who is constantly vigilant in regard to opportunities for projects or contracts [and who] must display a persona that mobilizes the need to be at all times one's own press and publicity agent.'

These ideas were further supported by stories of particular successful developers who overcame a variety of challenges to finding dream jobs in the industry or in narratives about personal challenges and vulnerabilities. An example of one such story was presented by Patryk, who managed to secure a better-paid position in a video game company based in Berlin:

> I have always worked hard in my life. […] So, I sat in this [testing] company, and I smiled, I was nice to people, and I think that my optimism and willpower allowed me to become one of the best testers within the first ten months of my work. This also allowed me to get to my new job in Berlin (Patryk, 20s, male, quality assurance).

These survival stories presented an ideological manoeuvre not only in fetishizing the individual responsibility of overcoming structural problems, but also a particular form of expression of vulnerabilities. In the entrepreneurial war stories, one can only discuss the vulnerabilities, challenges, and struggles as long as one achieves success in the end. This approach echoes Shani Orgad's (2009) analysis of survivor discourses, which emerge from one's suffering and struggles, but which do not discuss their causes.

Individual Responsibility and Inequalities

The idea of cultivating resilience laid in the emphasis on the importance of personal responsibility for structural problems. In this sense, it depoliticized challenging working conditions in the industry by shifting the risk of employment to an individual. Video game workers' understandings exemplified equally individualized narratives. Interviewees mostly focused on discussing gender inequalities in the industry. Their choice of discussing these inequalities could be motivated by increasingly visible discussions about gender inequality and harassment in the industry and the broader gaming culture since 2014. Furthermore, interviewees might have also been motivated to discuss this particular inequality because of their assumptions about the researcher's interest. Interviewees acknowledged the underrepresentation of women in the industry and the gendered occupational segregation; however, they rarely interpreted these inequalities as structural problems. Instead, video game workers often presented their workplaces as egalitarian and progressive, whereas instances of inequality, discrimination, and inappropriate workplace behaviour were interpreted as incidental or even normalized events.

> I have never perceived the whole industry through the fact that I have met some idiots. I just came across these incidents, shrugged my shoulders, and moved forward. And I did not make a tragedy or big deal out of it (Ania, 30s, female, public relations).

Polish video game workers' position towards inequalities echoes Gill's (2014, 63) research about inequalities as something 'unspeakable' – 'largely unnoticed and unspoken of even by those most adversely affected by them. For in these media workplaces the rhetoric of the meritocracy prevails and "not making it" is interpreted through a toxic discourse of individual failure.' Therefore, instances of inequalities and discrimination discussed by interviewees were approached through individualistic narratives that stressed one's responsibility to develop resilience to the work culture in the video game industry.

> We have very specific people here, even girls, and they know how to deal with this (Kasia, 20s, female, quality assurance).

> You need to have some form of resilience to work in this environment (Maryla, 30s, female, software engineer).

By stressing the importance of individual responsibility, workers often rejected any justification for deep structural changes in the industry. They rather believed in the 'organic' improvement of the work culture. This attitude inevitably contributes to the maintenance of the status quo. The construction of entrepreneurial subjectivities is defined through exclusionary dynamics (see Ringrose and Walkerdine 2008), and it further normalizes boundaries of inclusion/exclusion (also see Scharff 2017). Therefore, workers who question the idea of a meritocracy and individual responsibility could be labelled as not resilient, resourceful, or entrepreneurial enough to stay in the industry.

Questioning Entrepreneurship

However, not all interviewees affirmed the entrepreneurial narratives about their jobs. Some of them openly questioned this rhetoric through self-reflection on their previous work experiences. In contrast to the interviewees who discussed their struggles through entrepreneurial discourses, the interviewees who questioned this narrative used references to future rather than past events to emphasize the personal price that video game workers pay for their work. For instance, Jarek, who worked as a freelancer for different game projects and later established his own studio, argued:

> Is the question 'to be or to have'? Because some people think that the project is the most important thing. They are okay with living from hand to mouth as long as they can work on 'the project'. Now I look at this differently than I looked at it ten years ago. You need to think about your future; you need to remember that: 'this is not your project', that the proceeds do not go into your bank account, a percentage, an investment, or whatever. There is no point in destroying your health. This is not a fight you can win (Jarek, 30s, male, 2D graphic designer).

This group of interviewees reflected on their previous work-related experiences in the video game industry and their emotional attachment to this type of work; they came to the conclusion that the industry exploited its workers, and therefore, that it was important to maintain a certain distance between work and private lives. It is therefore not surprising that these types of reflections came from people with years of experience in the industry. Nonetheless, even when interviewees questioned entrepreneurial ethos by pointing out the precarious situation of video game workers, problems with

physical and mental well-being, and the uncertain future of the industry, their approach did not provide a possible solution to the challenging working conditions in the industry.

This research was conducted before the popularization of the Game Workers Unite movement. Therefore, it is possible that not many interviewees believed in a possibility of establishing support for the industry's workers. It could also be seen as surprising because of Poland's history of collective mobilization and unionization. The lack of discussion about the possibility of collective action could be a symptom of wider sentiments towards unions as reminiscent of a previous era or a distrust of the government. It thus does not mean that interviewees did not engage in their personal, individual forms of resistance ranging from decisions to leave the industry to small attempts at sabotaging the production process (see Ozimek 2019). Nonetheless, the majority of interviewees approached their careers in Poland as temporary, and expressed a willingness to find employment in the future in video game industries abroad.

> Yes, I am thinking about this. If I got an offer from the US or UK, I would probably go (Ania, 30s, female, PR).

> [...] I would like to work abroad, myself. If I ever went to look for a job, the first thing I'd do would be to send my CV abroad and not to a Polish company (Jarek, 30s, male, 2D graphic designer).

The interviewees approached the opportunity to work in other countries as a way to achieve better salaries and better working conditions. It could also be argued that the interviewees' ideas about 'Western' industries were forms of fantasies regarding their perceived better-or-worse working conditions. Their willingness to find employment abroad in video game companies applied mostly to the UK, the US, or Canada. The interviewees' interest in finding employment outside Poland also reflects a general trend of economic migration among Polish citizens.

Conclusion

Polish game workers constructed and negotiated their entrepreneurial subjectivities through not only applying strategies to maximize their employment opportunities, but also through adopting specific attitudes and values associated with an entrepreneurial ethos. Video game workers

often described their engagement with work through an emphasis on the meritocratic nature of the industry, an ethos of hard work, resilience, and the importance of individual responsibility. In other words, Polish game workers rarely saw structural, systemic issues as the sources of problems in the industry. From the engagement with informal skills acquisition, compulsory networking, and the adoption of a positive attitude to a disavowal of inequalities, interviewees used individualized narratives to explain their approach to work in the industry. Undoubtedly, this understanding of creative work or new media work is not limited to video game workers, as entrepreneurial narratives and the embracement of risk in the new economy have been widely studied (Neff 2012; Scharff 2017). The investigation of workers' attitudes remains important, as it raises questions about problems with introducing structural changes in the industry and the persistence of inequalities and exploitation in video game industries. Entrepreneurial subjectivities are negotiated through exclusionary dynamics (see Ringrose and Walkerdine 2008); therefore, the investigation of their constructions contributes to the knowledge about boundaries of inclusion and exclusion in terms of working in the industry.

Filiciak (2016) argues that the history of video games in Poland is the history of the development of capitalism. Indeed, the foundations of the Polish video game industry were established during a period of significant political, economic, and social changes. In a similar vein, ethnographers of work in Central and Eastern Europe argue that '[…] In Eastern Europe, transforming persons into choosers and risk-bearers soon becomes the project at the heart of the post-socialist transition' (Dunn 2004, 22). This approach emphasizes the socially constructed nature of entrepreneurial rhetoric (Neff, 2012), which should also be recognized along with the specificity of socio-cultural development of a given industry. In this chapter, I discussed the mobilization of entrepreneurial discourses in the context of Poland in relation to the industry's past, the government's promotional campaigns, and perpetuation of the image of the local industry in media outlets. Furthermore, I demonstrated that these entrepreneurial narratives are not specific to Poland. On the contrary, they fit within broader narratives about attitudes and values of tech companies.

Further research should focus on investigations of similarities and differences in the construction of entrepreneurial discourses and workers' responses to them in different socio-cultural and economic contexts. The further investigation of workers' attitudes is also of growing importance for understanding the development of various collective actions and unionization in the industry (Weststar and Legault 2019). While the support

for workers' unionization is growing in countries known for their historically strong support of collective organization, such as the UK, France, or Sweden, they are yet to be developed in the context of post-socialist countries.

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14. The Development of Greater China's Games Industry: From Copying to Imitation to Innovation

Akinori 'Aki' Nakamura & Hanna Wirman

Abstract
The People's Republic of China has become the largest digital game software market in the world. Yet, outside the Chinese game industry itself, very little is known about the local development scene. In this chapter, we approach Chinese regions' game industry from both a historical and an analytical perspective, particularly by examining how game developers in the PRC, Taiwan, and Hong Kong came to learn game development through copying, imitation, and gradually moving to innovation. The chapter aims at explaining China's game development history chronologically, starting from the end of the 1980s when Nintendo's products entered China and pirated products overwhelmed the legally bound regular market until the emergence of indie studios in the 2010s.

Keywords: China, game development, outsourcing, rapid prototyping, indie game studios

Introduction

Being worth approximately 40 billion USD in 2020, China is currently the largest digital game market in the world. Chinese game companies have succeeded in bringing games to international audiences throughout the country's rapid development in recent decades. The more widely known global hits such as *Arena of Valor* (TiMi Studios 2016), *Knives Out* (NetEase 2017) or *Genshin Impact* (miHoYo 2020) were preceded by a number of notable games in early 2000s, such as the massively multiplayer online role-playing game (MMORPG) *Perfect World* (Perfect World Games 2005) or *Sunshine*

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Ranch (Rekoo 2008), which became the most popular game on Japanese social networking service (SNS) Mixi.

The chapter investigates, through documented cases of changes in corporate culture and development conventions, how the Chinese game development scene gradually grew into its current strength and stability. Such an approach helps to recognize the diversity of success factors and driving forces along the way. It also demonstrates the ways in which foreign knowledge and expertise from related industries supported the growth of local, game development business culture in Greater China. The historical perspective is valuable for establishing a more nuanced understanding of Chinese games and game development while current popular accounts are typically negative and one-sided (Wirman 2016).

Based on a decade of research on the Chinese game development landscape, Akinori Nakamura (2018) has suggested that China's game industry formation can be divided into five periods: 1) the chaotic period (the end of 1970s to 1997); 2) the formation period (1997–2004); 3) the development period (2005–2009); 4) the expansion period (2010–2014); and 5) the maturing period (2015–present). The first period was characterized by difficulties in establishing game businesses as profitable enterprises due to high circulation of pirated games. The formation period, meanwhile, was characterized by the launch of various online game services. This is the era when Taiwanese companies were venturing into this new form of online entertainment, followed by the companies established in inland China. The enormous success of these companies allowed listing on Nasdaq in 2004, proving that there can be a way to monetize internet services in China besides simple advertising. The third, the development period refers to the emerging interest in online game services from different business sectors after seeing the success of dedicated online game publishers. During this period, various types of game services were put on the market. The fourth period witnessed the boom of browser games and smartphone apps, which allowed numerous venturing companies to join the game sector while some local publishers began to play an active part in the global game business. The fifth and the latest period, starting from 2015, refers to the rise of indie studios.

In this chapter, we introduce a set of case studies to illustrate the game development practices of each period. These case studies draw from semi-structured interviews with company representatives (see Nakamura 2005, 2010, 2016, 2018) from 2004 to 2018 and cover three dedicated outsourcing firms, three in-house development and publishing studios, and two indie studios, focusing on analysing the operational practices of game development studios in the China region. The mainland Chinese market, especially in

the early days, was intertwined with other players in the Greater China regions. The cases represented in this chapter reflect on such circumstances.

Chaotic Period

During the chaotic period of Chinese game development industry (Nakamura 2018) from the 1970s to approximately 1997, the distribution of pirated products was one of the key challenges for game studios in the PRC, Hong Kong, and Taiwan. While companies such as XiaoBawan in China or Xiao Tiancai in Taiwan produced clones of Nintendo Entertainment System hardware (Kagurazaka 2017), another Taiwanese company Funtech Entertainment Corporation developed an original video game console system Super A'Can in 1995 (Dark Watcher n.d.). Reflecting the difficulties of the time, several Taiwanese software development studios that created games for this console ended up bankrupt as the console was swiftly discontinued along with several game titles that were still in development.

Chinese PC game development during the time was more vibrant, but remained immature in comparison with those in the US, Japan, or Europe. In April 1989, a three-person studio SoftStar launched its first PC game *Richman* (Softstar 1989; also known as Money Taipei), which was a Chinese version of *Monopoly* (Magie and Darrow 1935). The Greater China's first PC role-playing game *Xuanyuan Jian* (DOMO Production 1990) followed a year later. As an example of Chinese studios learning and benefiting from the more advanced regions, a company called Soft World started developing their own game titles in 1991 having imported and localized games developed in North America since 1986. Other notable games from the time include *Apocalypse in Zhongghuancun* (Seasun 1996), which was distributed in the PRC, and *Hooves of Thunder* (Object Software 1996), a horse racing simulation game distributed in North America and Europe. *Fate of the Dragon* (Object Software 2001), a later game by Object Software was published by Eidos Interactive and received numerous recognitions from both Chinese and foreign game media.

While several companies survived the industry's turbulent and highly competitive early environment by flexibly branching out into online game services and later into game apps, many studios merged into bigger firms, changed ownership, or simply went bankrupt. With the exception of a few companies such as Object Software, the majority of companies in this period aimed at supplying software to the Chinese speaking countries. It seems as if the majority of game developers working in the industry at the time did

not fully understand the prevailing quality expectations outside of China. This resulted in the development of games with less technological merit, simple mechanics, and poor graphic quality. Smaller companies in Hong Kong and Taiwan, however, were able to gain advantage by tuning into the local player preferences and survived because of the strong support they gained on their own turf.

Tose Shanghai: Teaching Corporate Values

The challenges that a Japanese game studio Tose faced amid its attempts to expand operations from Japan to the PRC illustrate the game development culture of the chaotic period. Nakamura (2018), after conducting several interview sessions, compiled a historical account of Tose's development in China from 1993 until 2018. Tose was established in 1979 and has been solely devoted to game development since the beginning. Among its dozens of clients were notable names such as Nintendo, Square Enix, and Sega Sammy. What made Tose special at the time was its unique revenue model based on an idea of the company serving as a 'one-stop development service spanning from plan proposals to development and operation primarily for video game software' ("Businesses" n.d.). According to Nakamura (2018), the shortage of human resources proved problematic for Tose in early 1990s, which led to the hiring of three Chinese programmers who completed university education in the PRC. Stunned by overwhelmingly high performance of these personnel, Tose expanded the recruitment of Chinese programmers to six and continued for two to three years; this eventually led the founder and President (current chairman) of Tose to eventually establish a Shanghai branch in November 1993, accompanied the human resource project titled the Zhuge Liang (a reference to a famous military strategist during the Three Kingdom era) with a special emphasis on 'finding good programmers' (Nakamura 2018). Tose Shanghai was one the first game studios in the city and one of the first in the country. Tose ran its operations for 20 years. An additional Hangzhou studio was founded in March 2001 and remains active ("Businesses" n.d.). According to Nakamura, programming was considered the most demanding task and the project succeeded in recruiting five employees: one interpreter, three programmers, and one designer.

However, Nakamura (2018) also points out that the early operation of Tose Shanghai faced challenges resulting from different values between Japanese

managers and Chinese staff. During this time, it was natural to embrace practices by Chinese employees following many state-owned enterprises in the PRC most notably their desire to receive standard remuneration regardless of the outcome of individual performance, and it was natural for a workday to finish at 17:00. These practices were not in line with Tose's working culture. From the employer's perspective, Chinese employees left work daily for reasons that the Japanese deemed unreasonable, such as to meet friends or because they believed that working overtime implied incompetence (Ibid.).

To tackle the emerging issues, Nakamura expounds, Tose dispatched employees from Shanghai to the Kyoto headquarters as trainees. In 1994, four programmers visited Kyoto for six months. Simultaneously, a staff member who engaged in interpreting across the parties understood the importance of aligning Chinese employees' understanding of Japanese business culture. She was appointed as the Deputy General Manager of Tose Shanghai. The lack of face-to-face meetings continued to cause misunderstandings, but over time the training in Japan improved the situation and trainees returned to China sharing company values and passing them on to local employees. It is characteristic of the drastic changes in working attitudes that even during the Chinese New Year's celebrations staff members reportedly voluntarily stayed at work overnight as a result of adopting Tose's Japanese working culture (Nakamura 2018).

Another set of significant changes at Tose Shanghai came in 1996 with a new graduate recruitment system. There were hardly any software development companies in Shanghai despite an abundance of graduates from local universities. Tose, which had started with only five employees in 1993, grew into an employer of more than 100 developers in just a few years. Tose Shanghai was a popular employer, which resulted in high competition among the applicants. Together with the number of employees, the number of projects increased as well (Nakamura 2018).

Tose's struggles in setting a foot in China illustrate the circumstances a foreign venture faced during the early developments of Chinese games industry. After launching a studio in Shanghai, the company's management was compelled to train local employees in every aspect of Japanese work ethics and practices. Apart from dealing with the intricate company policies and regulations, Tose faced managerial issues with inexperienced employees. While there was no shortage of employees, they were fresh graduates with barely any professional experience. Therefore, they required general professional training as well. This also suggests that Tose, as a foreign company, had a role in training the first generation of Chinese game developers.

Formation Period

The 'formation period' of Chinese game development ran from late 1990s to 2005. During this time, even the most influential studios such as Shanda Interactive Entertainment or Tencent were developing games which appeared to be 'copies' or 'imitations' of other games. When Shanda developed its first in-house MMORPG, *The World of Legend* (Shanda 2003), the company was accused of intellectual property infringement of *The Legend of Mir 2* (WeMade 2001) by Korean game company WeMade (Shanda 2004). Similarly, when Tencent launched QQ Game portal in 2003, many considered the overall design of the portal an imitation of Ourgames.com – a casual game portal, which has been in service since 1997 (Dongfang Tiyu 2018). It was a norm for many game studios in the PRC at the time to imitate. Sometimes it even appeared that local companies copied substantial components of works developed by other firms.

Taiwanese game studios, meanwhile, had a significant influence on the development of online game services in the PRC. Even though the first online games in the PRC were made available on a casual game portal Ourgames.com (1997), the first commercially successful monthly subscription online game service was a Taiwanese graphic MMORPG *King of Kings* (Lager Interactive 2000) in 2000. Since then, several online game services followed the trend, all of which were developed and operated by Taiwanese game publishers. Chinese companies then followed this by either providing online game services from Korea (Shanda Network) or games developed in-house (NetEase). By 2005, the companies that capitalized on the surge of popularity of online game service, were able to go public on the NASDAQ stock market, while revenue from online game service became a major source of income for companies like NetEase. Two cases from Taiwan are presented to illustrate the culture and practices of this time, both of which preferred an anonymous treatment.

Taiwan Game Studio A: Emphasizing Project Management

Based on the semi-structured interviews conducted by Nakamura (Interview with a Producer at Company A 2004), Taiwan Game Studio A (further referred to as Studio A) was a game development studio with 60 development staff (30 in Beijing, 30 in Shanghai) in China and approximately 100 in Taiwan. Their case focuses on significant team restructuring as well as project planning. Since the establishment of the company until around 2000, their

game development was based on teams. Initially, the teams consisted of three to five developers, or, in some cases, the games were completed with just one or two developers. Later, the size of the team grew to five to eight developers, with eight to ten teams working simultaneously. But the number of people required during the development process varied. During the planning stage, a few game designers were required. In other words, while game designers were working on the story or game mechanics, many artists lacked meaningful assignments. On the contrast, during the peak time, the number of programmers and artists initially assembled as a team may not have been sufficient while game designers may have had nothing to do, especially after game specifications had already been planned out. This made the game development schedule quite unpredictable. Among the staff at Studio A, the game development division, being internally called R&D (Research & Development) was instead sarcastically referred to as T&D (Try & Delay). But the game development process at the time was generally considered uncontrollable. Being unable to tolerate this situation, Studio A decided to switch from team-based organization to three development groups system, which was initially tried in China in 2000 and then fully implemented in August 2001. The divisions consist of game design, art, and programming. Testing was done by a dedicated group within the company. Sounds and music were outsourced to the dedicated sound production studio in Taiwan. This approach involved flexible staffing that was determined periodically through discussion between project managers. Producers in charge of multiple lines also attended meetings, clarifying how responsibilities could be divided between individuals. With the implementation of the flexible and transparent management, it was possible to allocate 80–90 employees into a single project during its peak development time, while previously the largest team size was about 30 people given the fixed team sizes.

Taiwan Game Studio B: Making an Intricate System More Transparent

The game development system implemented by Taiwan Game Studio B (further referred to as Studio B) was introduced by Nakamura (2005) as Company E. Studio B had a development base with 80 people in Taiwan and more than 100 people in Shanghai. Nakamura emphasizes the trait of Studio B as detailed milestones system, which was divided into stages starting from Milestone Zero (planning and proposal documentation stage),

Milestone One (referring to the point when a client signed the contract with a detailed specification of the project), and the production stage which consist of pre-production and production phases (Nakamura 2005). Project sizes varied according to the scope of the game specifications and budget sizes provided by the clients. The milestones were set bimonthly and meetings held regularly during different phases of the project. During the meetings, the overall schedule was reviewed and modified if necessary. This system allowed Studio B to have a geographically separated team working together: The Taiwan side being responsible for management, quality control, programming, and art direction and the Shanghai team being responsible for 2D character designs, 3D graphic designs, motion capture, background arts, and other game assets. Depending on the situation, Studio B would allocate creative talents dynamically between projects (Nakamura 2005). In this way, Studio B was able to maintain a clear plan in agreement with the clients even when sudden changes occurred. The system further allowed a smooth addition of new milestones and related budgets.

The cases of Studio A and Studio B suggest that their games were not made by a few charismatic game designers, but resulted from carefully managed and structured development processes. Both companies implemented fully transparent management that proved trustworthy in terms of getting major contracts from clients located in markets such as North America or the PRC. The restructuring and changes in development processes at Studio A exemplifies how studios at the time matured with the industry revisiting its business practices. It also suggests a move towards multi-project environments and the more careful allocation of human resources. Such changes did not happen overnight. Rather, both companies created systems that could withstand Original Equipment Manufacturing-like development by gradually modifying their development styles through trial and error typical to the period.

Development period

In the early 2000s, the online subscription model became one of the vital ways to monetize games. Among others, Giant, one of the most influential online game publishers in China, was established in 2004 by Shi Yuzhu, a famous entrepreneur known for health care products. Virtually all companies that operated in the industry at the time either initiated an online game service division or switched completely to provide online

games only. The case of Perfect World Games is an example of the latter. Having had their first company E-Pie Entertainment & Technology dissolved in 2004, the subsequently founded studio Perfect World Games maintained the technological know-how accumulated by its predecessor. This was then used as a backbone of a world-class online game service *Perfect World*.

The second case of Virtuos represents the expansion of the business ecosystem in the PRC. Taking advantage of relatively inexpensive labour costs, Virtuos was able to become a part of the ecosystem of large-scale game developments for the global game publishers. With the accumulation of know-how throughout their multiple projects, Virtuos gained a reputation for its high-quality output of graphic assets and games. Later, even after the labour cost in China was no longer competitive, clients continued to consider Virtuos as a valuable partner, making it one of the global leaders in the digital entertainment dedicated outsourcing service. This also indicates a dramatic increase in human resource capabilities in China during this period.

Perfect World: Adapting Self-Developed 3D Engine to China's Environment

One of the first Chinese companies that have achieved global success in developing online games is Perfect World Games. By 2014, it had licenced its games to more than 100 countries. According to local market surveys, the company accounted for 21.91 per cent of total exports in the MMORPG sector in 2014 (GPC and CNG 2015). In addition, the company established subsidiaries in the United States, Denmark, Japan, Malaysia, Singapore, and South Korea. The company's global expansion started in 2006 in Taiwan, Hong Kong, and Macau. This was made possible by their self-developed MMORPG *Perfect World*. This case, first introduced by Nakamura (2016), explores how Perfect World Games gained success by continuously working on research and development.

According to Nakamura (2016), Perfect World Games' competitive advantage is based on having game development middleware and a game engine that enables real-time rendering of 3D computer graphics (further abbreviated as 3DCG) while enabling large-scale network services. This is implemented through their proprietary Angelica 3D game engine. This technical foundation was developed in 1997 at the Zulong (in English, Archosaur) studio, a research base established by the Hongen Education

Group. Since the conception of Zulong, the organization has been developing 3DCG real-time rendering technology.

The first published game utilizing the platform was a real-time strategy game called *Freedom and Glory* (Zulong 2001). The game was done in full 3D making it arguably the most technically advanced game made in China at the time when other titles were typically developed in either 2D or using pre-rendered 3D graphics. Company's technology could not, however, withstand the technical level already reached by the companies in North America or Europe where severe competition among 3D engines existed already in 2001. Albeit inferior to global competitors, E-Pie continued to develop its own game engine, and in 2002 a first-person shooter *Great Qin Warriors* (Archosaur Studio and E-Pie 2002) was released and followed by several other 3D action shooting games (Nakamura 2016). With products being pirated, the sales performance of E-Pie was limited. Thus, E-Pie was eventually dissolved while the Angelica 3D game engine itself was inherited by Perfect: the online game service established by the Hongen Education Group.

Nakamura stresses the strengths of the Angelica 3D game engine, particularly its scalability by simplifying the calculation process according to the hardware specifications as well as a real-time cheat prevention system. These features were added after the technology was inherited from E-pie. The engine was heavily modified to meet the local needs at a time (Nakamura 2016), when low-spec PCs were prevalent both at home and even at internet cafés, and cheating was quite the norm among Chinese online game players. Perfect World Games thus succeeded in developing high quality online games by adapting their 3D engine originally developed for non-online PC games to run a MMORPG service in China. Due to a steady investment into research and development, once inferior technology reached the level of its international competitors. Afterwards, the development pipeline quickly expanded to support multiple projects at the same time and new engines were introduced to support different types of projects. Perfect World Games' technical advancements were particularly well received in Japan (4Gamer 2006). The media highly praised character customization features since such a system was unusual for MMORPG at the time.

The company's positive attitude towards swift research-based reactions to changing needs can also be seen in human resources management. Lu Xiaoyin, the art director of E-Pie, was promoted to various roles in the company eventually becoming the COO in 2017 and the CEO in 2018. While Lu Xiaoyin's career signals the company's focus on R&D, it also reaffirms its emphasis on leveraging existing resources in general.

Virtuos: Education and Production System for Outsourcing

The rapid expansion of Chinese game industry in the past decade covers not only the companies that were directly involved in providing game products and/or services to customers, but also those that specialized in providing business-to-business (B2B) services. Outsourcing has become particularly common as the size of the video game projects have grown over time particularly for AAA titles. To satisfy these demands, many outsourcing firms entered the market. For example, several people who had gained experience at Ubisoft Shanghai later left the company to establish an outsourcing studio. Nakamura (2018) conducted interviews several times at Virtuos and compiled it in his book on the history of China's Game Industry.

Virtuos was founded in 2004 by Gilles Langourieux, who joined Ubisoft in 1995 as global business manager. From 1997 to 2000, Langourieux established the Ubisoft Shanghai Development Studio and Beijing Sales Office, which was responsible for Ubisoft's online business strategy. Witnessing the rise in development costs, Virtuos was established with the belief that outsourcing would play an important role in the value chain of digital game development in the global industrial ecosystem.

Nakamura (2018) gives a detailed account of the humble beginning of Virtuos. The company initially achieved profitability by doing contract work for Ubisoft. In 2008, when the number of staff in the studio increased to about 300 to 400, a new studio was founded in Chengdu. In 2010, the company formed a business alliance with Grafit Studio, a company specializing in concept art, and obtained about a dozen dedicated teams within the company. In 2011, Sparx, a long-established major computer graphics studio in Vietnam joined Virtuos. Since then, Sparx played a major role in the production of 3DCG assets for Hollywood movies in addition to the production of game assets. At the end of 2017, Virtuos consisted of 11 studios with a total of 1300 people.

According to Nakamura, Virtuos emphasized the development of human resources. From early on, the management team of Virtuos visited various technical colleges, art colleges, and vocational schools to discover future talent. Furthermore, Virtuos developed an extensive three-month-long training programme, which finally led to the establishment of Virtuos Academy in 2010 (Nakamura 2018).

As for the organizational competency, Virtuos constantly raised the overall skill set of employees by getting more complex and bigger projects. Types of projects were balanced to allow equal development of a variety of skills and new hardware licences were actively obtained to gain new skills.

As one of the few developers in China, Virtuos gained access to PlayStation 2 development, for instance. As a result of such efforts were a multi-platform game *Monster Jam: Path of Destruction* (Virtuos 2010) and one of the first Chinese Kinect games. Taking advantage of Shanghai's position as a growing hub for competent 3D graphic designers, Virtuos became involved in the creation of 3D graphic assets for AAA titles developed by major publishers, including Ubisoft, Activision Blizzard, Electronic Arts, Naughty Dog, Square Enix, and Capcom, according to the official website.

The emergence of the world-class outsourcing studios such as Virtuos led to today's position of Shanghai as a notable global hub for game development. The case of Virtuous, like that of Perfect World Games, illustrates how the time was characterized by high quality game development and significant advancements in both research and human development. These large studios had gained valuable knowledge from their predecessors and now served the fast-growing local MMORPG and PC gaming markets.

Expansion Period

Nakamura (2018) has suggested that the maturing period of Chinese games industry spans from 2009 until 2014. This was the period when browser games, social games as well as smartphone game apps flourished in China, eventually making China the largest game playing population in the digital game market in the world. The human resources in the games industry increased significantly during this time as well.

Rapid Prototyping and Interactive Game Design in China

Rekoo is an example of a company that built its business upon a mix of rapid prototyping and iterative service development integrated with marketing research feedback. Rekoo was founded in Beijing in September 2008. Its first project was a farm management simulation game *Sunshine Ranch* (Rekoo 2008). It was developed in about three months by 20 employees (Nakamura 2016) and released on the Chinese social network services 51.com and Xiaoneiwen (currently called Renrenwen). By November 2009, 'It has been deployed on 17 social networking service (SNS) platforms in China, Russia, and the United States' (日経 xTECH（クロステック）2009).

Rekoo released *Sunshine Ranch* on a Japanese social networking site Mixi in 2009. The game ranked first on that platform for two consecutive

years after its launch (Social Game Info 2011). In Japan, *Sunshine Ranch* is known as one of the most successful social games and, along with *Perfect World*, one of the early examples of a game service from China that became popular in the Japanese market.

The key to any of Rekoo's achievements was quick decision making and execution by Rekoo's management. After graduating from the Kellogg School of Management at Northwestern University, Patrick Liu, the company's founder, launched a social network service in China in 2004, following the trend in the US and Europe. After the number of registered users had reached ten million, he decided to sell the site in 2006. Learning about Facebook's open platform concept, Liu worked on developing software tools for SNS, but gave up because there was too much competition (Nakamura 2016). In September 2008, he instead decided to develop a game for SNS. Liu swiftly applied for a licence to publish *Sunshine Ranch* on Mixi later introducing constant modifications and various cross-promotion campaigns. By 2012, the number of employees at Rekoo had grown to 560 in China alone, and five games were released in 2011 (Nakamura 2018). This was an interesting case where the software development practices in the IT industry were applied and fully embraced into the digital game industry in China during the expansion period.

Maturing Period

Maturing period was the era when China became one of the largest not in terms of gamers population but also the size of the market. During this period, Globally popular games such as *Arena of Valor* (TiMi Studios 2016), *PUBG Mobile* (Tencent Games 2018), *Mobile Legends: Bang Bang* (Moonton 2016), *Piano Tiles* (Umoni Studio 2014) or Anime style action mobile games *Houkai Impact 3rd* (miHoYo 2016) or *Azur Lane* (Shanghai Manjuu and Xiamen Yongshi 2017) particularly popular in Asian countries were developed by game studios in the PRC. During this time, various indie studios emerged and began to flourish. A major indie studios focused event emerged in 2009 with the Independent Game Festival China. In addition, Unity established its Shanghai office in April 2012, providing an environment where Chinese developers could receive direct support. Under these circumstances, the Chinese Indie Game Alliance was organized in 2015. At the end of July of the same year, the exhibition Indie Play was held. Nakamura (2018) discusses game development practices of several indie studios to represent the latest situations of game development practices in China.

One such studio, NTFusion was founded by a group of graduates from Huazhong University of Technology in 2009. They initially started their business by programming information systems. When their flash game, *Pocket Creature* (NTFusion 2017), reached ten million registered users worldwide (Nakamura 2018), they decided to go into the game business. Development of Pocket Creature for smartphones began in February 2016 with a dozen developers, and the game was released in May 2017. At the time of release, the company was earning two to five million yuan (280,000–700,000 USD) as a monthly sales revenue. By the end of 2017, their monthly income was reaching ten million yuan (1.4 million USD). NTFusion released European and American versions in November 2017, followed by a Korean version in January 2018 and Taiwanese in February 2018, expanding the staff size to about twenty people (Nakamura 2018).

Some Chinese developers 'went indie' after gaining experience at major local game publishers. For example, the founder of WoodWolf, after working at Tencent and Xunlei, developed an adventure game based on a mystery genre he was passionate about. In 2016, he started to develop a prototype using Unity by himself in his spare time. In March 2017, he invited a former work associate and engineer to the company he had started. Later on, one more programmer and eight freelance artists came on board and joined the project. Their game *Liuyan Zhentan* (Wooden Wolf 2017; Rumor Detective in English) was released in August 2017 (Nakamura 2018).

Conclusion: Over 40 Years of Game Development in China

This chapter has aimed at offering insights into how game development has changed over time in the Greater China region. Although the individual case studies provide little ground for generalization, they together highlight the specific local conditions that game studios faced during the past 40 years. The overall development of the game production system in Greater China, together with case details is presented in Table 14.1. The cases here illustrate how single decisions or individual persons in power have defined wide future trajectories. If it was not for the companies learning from pirated games or foreign outsourcing, development knowledge in Greater China would have taken much longer to learn. Meanwhile, without such external influences, local game development could have gained more unique characteristics and fundamentally more innovative practices, too.

During the early phase, foreign ventures operating in the region had to provide fundamental training for employees. The late 1990s were still an

Table 14.1: Changes in Greater China's game development practices

Period	Changes in Game Development	Case Presented	Related Development in the Industry
Chaotic – Formation	Employee training system integrated	Tose	New foreign ventures in China ('porting' and graphics outsourcing)
	Corporate values and work ethics training integrated		Major studios in PRC being accused of infringing copyrights of other works
	Project management system adopted	Taiwan Game Studio A	Setting example for other companies to adopt new process models
	Transparent and detailed milestones system adopted	Taiwan Game Studio B	
Development	Long-term R&D for core technology established	Perfect World Games	Technological innovation / Success outside of Greater China (Russia, Japan, Vietnam, and others)
	Core technology for customer environment adopted		
	Core technology applied across projects		
	Large-scale outsourcing development	Virtuos	Professional capabilities that enable entering the global game development ecosystem
	Hybrid of teams and hierarchical structure		
Expansion	Existing game mechanics (Farming Simulation) adapted onto a newly created platform (SNS)	Rekoo Media	Rapid game adaptation
	Rapid prototyping and iteration applied	Rekoo Media	Process innovation
Maturing	Small-scale development with focus on game design	Various Indie Studios	Game design innovation

early stage for China's embracement of the market economy system, which can be traced to the reboot of China's modernization plan after the talks given by Deng Xiaoping during his visit in southern China in 1992. Teaching corporate ethics was common in other areas of business, particularly in the manufacturing sector among foreign ventures at the time (Nakamura 2001; Tsang 2004).

The case studies of Taiwanese game studios revealed that some of the companies begun embracing systematic approaches to game development by integrating project management methods into game development. Unfortunately, neither of the companies was able to survive in their original shape; one company faced the change of its ownership, and the other was

acquired by a game company in PRC. The effective methods developed by these companies, however, may have been diffused within the game industry during this transformation.

Long-term research and development of core technology and ability to adapt technology to serve the growing Chinese online game service environment led Perfect World Game to develop 3D MMORPG game engines. These were easily adapted to diverse game playing environments such as Japan, US, Russia, and Vietnam. As for the Virtuos case, it can be assumed that Gilles Langourieux's experience from Ubisoft Shanghai with various struggles with training local talent led to the later emphasis on employee training. In the case of Rekoo, the management philosophy of the owner reflected his experience from the IT industry such as swift decision-making process and incremental software development. The emerging indie studios began to focus on small team development, which allowed them to swiftly react to changes in the industry and in player preferences. The past decade has witnessed a steady growth in the Chinese indie landscape where supporting organizations and support from major technology companies has allowed small enthusiasts to become successful professionals.

To summarize, game development in Greater China has changed based on knowledge gained from various sources, including but not limited to foreign game studios and related, more established industry sectors in China. From a historical point of view, it is possible to explicate different types of factors that influence how and how successfully games are being made. These findings help to suggest new starting points and considerations for studies that focus on current development cultures and practices and to draw a nuanced picture of game development in Greater China.

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Before and After: Towards Inclusive Production Studies, Theories, and Methods

Aphra Kerr

Abstract
In the afterword, Aphra Kerr revisits the early works of production-oriented research about video games, including her own ethnographic study of a small game development studio in Ireland. From a firsthand perspective, Kerr describes the first academic conferences that pioneered this direction of scholarly inquiry. Besides looking back at the foundations of game production studies, the afterword thematizes the recent developments in video game industries, such as datafication, the environmental effects of production, surveillance capitalism, and toxic game cultures, suggesting the future directions for more inclusive game production studies.

Keywords: game production, inclusivity, game industry, production studies, datafication

The first game production study I conducted was in a small independent start-up located above a tattoo parlor in the centre of Dublin, Ireland. There were fifteen employees, all first-time developers, and all working to create a game prototype to present to publishers. They were all located in one room alongside their computers, servers and various books, board games and other materials. The co-location of the servers meant that the temperature in the room was hot, and they were relying on small fans to cool the room. I had hoped to do an ethnography of the company and I had negotiated access. But there was nowhere to sit. This was the first of a number of spatial and social challenges to co-habiting the production space with the all-male production team and their equipment.

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Another unexpected challenge was the continued absence of the team from their office. As the first significant Irish start-up that had received both venture capital and public funding they were constantly out of the office, in demand from the media and their funders to explain their project. It seemed like the future of the games industry in Ireland was on their shoulders. There had been no internationally successful original game from Ireland on console or PC in the previous generation, and this company wanted to make one based on ancient Celtic heritage. There were some people working on games under licence in Ireland, but if you wanted to make it in game development most people emigrated to the UK or the US. Game developers based in countries like Ireland had to travel to London, New York, or Los Angeles to pitch their game ideas to game publishers. Most did not get a deal. It was 2001 and the PlayStation 2 was released in Europe at the end of that year. There was also a new kid on the block, Microsoft's Xbox.

This company was an independent first party game developer. In other words, they were independently owned and working on their own game project. They were not 'indie' in the sense that we might use the term today. In my first working paper on this study, I noted that the goal of the company was to get a publishing deal and to survive in the global games industry, not to produce the most innovative new game on the market (Kerr 2002a). Their prototype game had been shaped by discussions with publishers and investors about what would work in the marketplace. In our interviews, it emerged that they were designing a multiplayer online PC game for males between 25 and 40 years of age. I had not started out to study gender in this project – but from the moment I walked into the company gender became an issue. They had not realized that I was a woman, and they were designing a game for young men like themselves without really knowing anything about this prospective player base in different countries and contexts. I realized that studying production in digital games was going to be rather different to my previous studies of content production in multimedia companies (Preston and Kerr 2001).

The culture of production in the company could be described as creative, flexible, informal, and intimate in the way that people can be when they have known each other for a long time through college or school. They called themselves a 'studio' and a 'design house' to differentiate themselves from software companies. All interviewees spoke at length about how creative the industry was and how informal work environments enhanced this creativity. There was no hierarchy and everyone had multiple roles. For this company designing a game for adult males like themselves translated into designing for

young technologically literate young males, with a shared knowledge of turn based games and fantasy culture, and a particular version of masculinity. When I asked the designers if women might play their game – they said they had not really thought about it. They had no knowledge or access to research on game players other than what was provided by their publisher and eventually by beta testers of their game. They certainly were not co-creating their games with game players. Unfortunately, the games company never got to see their game published. Ultimately, both the company and my ethnography had short lives.

I interviewed a wide diversity of game developers in Ireland for this project. The most financially stable companies seemed to focus on games middleware or were branches of multinational companies engaged in localization. Many of the development companies I interviewed only lasted five years and most employed less than five people. The console lifecycle cycle seemed to play an important role in the longevity of these local companies. At each transition to a new console many small companies went out of business. They simply did not have the resources to invest in transitioning to the new consoles. Games for mobile phones were not seen as a viable option given the number of handsets and technologies on the market. I had no idea how generalizable my findings were. Academics from media studies, communication, cultural studies, and education were starting to research and write about games, but there were no game studies conferences at which researchers could meet. When I presented my research at media conferences it was met with enthusiasm but little knowledge.

I presented my first paper on the political economy of the games industry at a games conference at the University of Bristol in the UK in late June 2001 organized by Jon Dovey and Helen Kennedy. Some of the conference papers made it into the second volume of the journal *Game Studies* in 2002 – including one by Jairo Lugo, Tony Sampson and Merlyn Lossada (2002), which applied a cultural industries perspective to the video game industry in Latin America. At this conference we had papers on the UK, Irish, and Latin American games industries. A subsequent set of thematic seminars on the digital games industry organized by Jason Rutter and Jo Bryce at the University of Manchester brought together a diverse network of international game researchers and led to another special issue in game studies in 2003[1] and an edited collection which had two chapters on the business and economics of the games industry (Rutter and Bryce 2006). I presented my paper on gender scripts in game design at the *Computer*

1 See http://www.gamestudies.org/0301/editorial/.

Games and Digital Culture Conference at the University of Tampere, Finland (Kerr 2002b) – drawing upon theories from the sociology of technology and gender. This conference was a precursor to the DiGRA games conferences, and the paper is available in the DiGRA online library. The meetings to establish DiGRA took place that year over IRC channels and sometimes in the middle of the night Irish time to accommodate international scholars in multiple time zones. From the establishment of DiGRA in 2003 there was at least one conference venue where game scholars could come together to network, discuss, and share their work.

I recount this rather personal biography to signal that games production studies have been part of game studies from the beginning of the field, and production studies were present at the first conferences and in the first issues of game journals. Most of the existing academic publications that I found in English in the early 2000s focused on the US, the UK, and Japan (Cassell and Jenkins 1998; Consalvo 2006; Cornford, Naylor, and Driver 2000; Dovey and Kennedy 2006; Haddon 1988; Kline, Dyer-Witheford, and De Peuter 2003). A study conducted in Ireland provided a different perspective, even if it was still enmeshed in the western Anglophone world. Of course, as acknowledged in the introduction to this book, the games industry is heterogeneous. Bringing local production studies and industry studies into conversation is a useful way to situate this heterogeneity. In 2006, I argued that one could distinguish at least four sub-sectors in the industry, which varied according to the structure of the market, the revenue model, the openness of the software system, and the software production process (Kerr 2006). At the time the first two – console (including handheld) and PC dominated – with massively multiplayer online games a distinctive but smaller niche, and mini (including mobile) games emerging as an interesting area of innovation. This typology was based on my own empirical work and challenged some of the industry's own descriptions of itself and earlier work by Dmitri Williams (2002), which identified three significant market segments. The existing typologies were largely based on the US, the UK and Japan and it was evident that in locations like Ireland, game developers were not able to secure console and PC publishing deals and needed to find other channels or outlets for their work. They were experimenting with mobile and browser-based games and some were exploring interactive television.

By 2017, the industry was even more internally diverse. Mini games had grown into the fastest growing sub-sector of the industry – mobile games. But analysing the industry in terms of hardware or software sub-sectors seemed to obscure rather than reveal important social, economic, and cultural patterns. This time I found the concept of a 'production logic'

useful in attempting to grasp the industry's internal diversity (Kerr 2017). This was a concept that was developed back in the late 1980s in France to understand the traditional media industries. What has that got to do with games you might ask? Well, sometimes concepts from a neighbouring field enable one to abstract away from the detail of an empirical project. This theoretical approach enabled me to situate the experience of workers and companies within the larger economic and social flows of the industry – in other words, to bridge the distinctions that are sometimes made between industry and production studies. I could identify the central brokers, who were capturing much of the value created, but also look at the implications for workers. Other scholars have usefully looked to the wider economics and social theory literature to expand our understanding of contemporary games production (Nieborg and Poell 2018; Whitson 2019; 2020). Importantly, this work allows us to critically engage with industry produced statistics and narratives rather than simply reproduce them. We can situate the experiences of our worker, maker, and organizational studies in a wider context. It also enables us to trace the connections between companies with seemingly different names but the same owners.

The histories that game scholars write about their field often elides the contributions of scholars from game production studies and those from outside the 'core' countries and universities. Such histories often focus almost exclusively on the early narratology/ludology debates, on textuality, and on the game/player relationship. This work often foregrounds how *games are different*. However, a recent analysis of the intellectual structure of game studies publications acknowledges that game production studies and industry studies have a long lineage, even if they are less numerous (Martin 2018). In game production studies, different disciplines, theories, and methods have been applied and at least as much attention is paid to understanding the *similarities* between games and other media and cultural products, as well as differentiating how particular histories, contexts, and cultures of production have emerged over time.

Game production studies have long provided an important counterpoint to the uncritical, and indeed sometimes celebratory, publications written by journalists, industry veterans and industry associations (Herz 1997; Poole 2001; Sheff 2011). By the early 2000s, the lack of diversity in the industry, its products, and game cultures was an important theme in game production studies. In the US, Justine Cassell and Henry Jenkins (1998) had released the influential *From Barbie to Mortal Kombat* collection and Stephen Kline et al. (2003) wrote about 'militarised masculinities' in the games industry. In the UK, Jo Bryce and Jason Rutter (2003) mapped the gender dynamics at public

gaming events and Helen Kennedy (2002) wrote about the limits of textual analysis in the readings of Lara Croft. Across the developed Western markets, these studies identified the dominance of highly masculinized commercial production and consumption cultures, many of which were unwelcoming to those who did not conform. Compared to other media and cultural industries the narrowness of those who got to work in professional games production was stark. The industry reinforced this through its recruitment strategies, marketing, and game design choices. My very local ethnographic findings reflected a much wider Western norm. It is crucial that any reflection on the origins of game production studies acknowledges how the games industry is different from most cultural industries in this respect.

The established culture in the games industry was echoed in the questions this female game researcher received when she arrived into game companies and events. Do you play games, which games, and why are you studying games? The suspicions and questions about my gaming skills deviated substantially from the reactions I had received on arrival in multimedia and media companies more generally. Those workers took it for granted I was knowledgeable if I had started to study them. The questioning continued from my academic colleagues. Why are you studying games? Why are they important? They are just children's toys or toys for boys. At games industry events, I was shocked by the use of real women's bodies to sell graphics cards, and the placement of fans under their skirts to reveal their underwear. Was this really an acceptable part of the industry culture? I started to think about what I would wear while researching, which had never been a consideration before. I sometimes felt uncomfortable doing my fieldwork, but I never felt in danger. It is important to mention this because some people may not be able to apply ethnographic research methods in certain contexts because of their gender, race, or age. They may not 'fit in' or they may 'stand out'. As local companies were bought by publishers located in New York or elsewhere, local relationships were fractured and access had to be routed through unknown and unknowable others. As games production research has developed some challenges have remained constant: the dominance of a relatively small number of companies, designers, and games in the public and academic imaginary; the highly gendered foundations and norms of games production in many contexts; the relative marginality of games industry, production, and worker/labour studies in the field of game studies and the struggle faced by certain researchers and perspectives to be heard and cited.

This collection offers a chance to bring to the fore a range of scholars from different regions and approaches. The four sections on labour, development, publishing, and margins contribute to a broadening of our knowledge of

games production. In what follows, I offer some reflections on where we can go from here. I offer these thoughts because this type of research provides an important set of rich empirical insights that can confirm, or in some cases contradict, neutral administrative studies and commissioned industry reports. Sometimes, this scholarship can provide additional perspectives based on data collected by the industry (Consalvo 2008). Regardless, games production research is vital if we are to improve the diversity and inclusivity of the games curriculum, the games industry, games, and game playing cultures.

After – Into the Future

I believe it will continue to be fruitful for games researchers and workers to understand the similarities and differences between games production and production in other media and cultural industries, and to draw upon each other's theoretical frameworks, methods, and findings. Games production research is strongly interdisciplinary and networking with scholars from the humanities, social sciences and design can only strengthen our understanding of games production. Games are beginning to take their place in media and communication textbooks including the latest update of the *Cultural Industries* textbook (Hesmondhalgh 2019) and the *Making Media* collection (Deuze and Prenger 2019). These books bring games research to a broader readership, and potentially open up important new publishing and employment avenues for young scholars in countries and universities where game studies is not yet established or recognized. A growing avenue for research for some will involve working with the industry and existing cultural institutions to archive and record production materials that the industry often discards in its attempt to continually innovate and move forward. An interesting example of this type of work was evident in 2018/19 when the Victoria and Albert Museum in Abertay, Scotland held a high profile exhibition focused on the design and culture of video games, including showing game scripts, concept art, storyboards, and musical scores from published games.[2]

For me an important theoretical starting point in game production studies is to acknowledge that games production is a culture – and reflects the global and local struggles over culture, identity, and language, which emerge in different contexts. This holds true regardless of whether we are examining

2 See https://www.vam.ac.uk/exhibitions/videogames.

professional or informal games production. Game production studies can offer important insights into wider social, political, and cultural struggles – including around gender, race, class, and nationality. #gamergate was but one example of this (Mortensen 2018). Interviews with community managers provide insights into how other political struggles reveal themselves in game content and game play (Kerr and Kelleher 2015). Games as culture includes games as cultural heritage, not just as a resource from which to build new things, but also as an important way of exploring our collective memories, myths, and stories. Some policymakers and researchers have already accepted this point, some however find it difficult to accept that certain games are culture, particularly if they are not seen to contribute to healthy or acceptable forms of culture. Regardless, it is important that we attempt to better understand how inequalities in cultures of production and representation connect to inequalities in cultural access, consumption, and use more generally (O'Brien et al. 2017). We need to recognize and reflect on our complicity, as educators and workers, in the replication of such inequalities.

The culture/economy tension is core to the theoretical tradition of the cultural industries literature. This approach is one way of establishing the cultural status of games and trying to identify the similarities and differences with other forms of software and technology production. The shift in games from single player boxed products to multiplayer games services, and the wider shifts in ownership and connectivity across the media, and internet industries are in my view critical to understanding contemporary game production. In the future, it is likely that more and more games research will engage with the literature on surveillance capitalism and datafication (Couldry and Powell 2014; Hintz, Dencik, and Wahl-Jorgensen 2018; Mau 2019; Zuboff 2019). Indeed, the contemporary focus on data colonialism and empire in critical data studies more generally heavily resonates with critical scholarship on the games industry published over ten years ago, which argued that games are a paradigmatic example of hypercapitalism (Dyer-Witheford and de Peuter 2009), and provides multiple examples of how digital capitalism extracts value, or appropriates unpaid labour and effort (Jarrett 2019; Kerr 2011). We also see connections and resonances with research on user generated content and on 'spreadable media' (Jenkins, Ford, and Green 2013). Game companies are now hiring data scientists and artificial intelligence (AI) experts to assist in the monetization of their games and to take on roles in games production that we are only beginning to understand. These shifts have implications for what is being made, where, and when it can be studied. They also have implications for the creative autonomy of game designers, programmers, and artists.

The deployment of AI in the creation and monetization of games may also prompt games production researchers to consider even more carefully the tension between the human and the non-human, and perhaps link with philosophical and ethical reflections on the ways in which we should design and govern AI technologies. These issues were of concern in earlier game publications which drew upon Bernard Stiegler's writings exploring 'technicity' and the attention economy (Crogan and Kinsley 2012; Dovey and Kennedy 2006). Today, across industry events, publications, and strategies we can identify a turn to ethics guidelines, training, and reflection as a means of trying to grapple with unethical technology design and use. A cynic might suggest it is merely an attempt to deflect from greater regulatory scrutiny and accountability. As games scholars we should ask, is it fair to some game players that they are specifically targeted for monetization and personalization? Are existing monetization processes clear and transparent to players? What tools can be provided to younger and vulnerable players to navigate the conduct and speech they encounter in multiplayer games? Indeed, the complex advertising infrastructure underpinning many online games, especially free-to-play (Nieborg, Poell, and Deuze 2019), raises many policy challenges. Many European countries policy makers and regulators are asking if games are crossing boundaries into gambling and banking, or challenging children's rights – with implications for the business models underpinning the fastest growing segments of the industry. In Europe game companies are now viewed as 'data controllers', which brings a range of legal responsibilities under the General Data Protection Regulation (GDPR) framework. Established theoretical and research traditions including in the cultural industries, communication policy, philosophy and ethics provide some useful vantage points from which to analyse contemporary games production.

One of the fastest growing literatures and approaches of the past couple of years is queer game studies. This conceptual and methodological approach foregrounds gender and sexuality, provides a new way to interrogate past production research, methods, and theories, and suggests new ways to conduct game studies (Ruberg and Shaw 2017; Shaw 2009; 2015). It brings games and queer theories, scholars, and game makers together to produce new ways to think about inclusion and diversity. At times, the work seems to closely resonate with the writings and politics of feminist scholars and activists, and at other times to diverge from it. It makes space for challenging accepted ways of analysing and playing game representations, and for thinking about game design. What are the implications for games production research? As with all theoretical approaches it provides alternative perspectives and sensitizing concepts. It prompts us to question taken for

granted categories and methods, look for different sites of production, ask different questions. Asking questions about what is considered to be 'fun', 'failure', and a 'game'. Asking questions about alternative game mechanics. Given the conservative turn in politics in many countries, queer game studies may enable us to trace social and political connections between local and distant social formations.

Similarly, the rich terrain of feminist approaches to games production research takes an active, sometimes activist approach (Jenson and de Castell 2018) to games production research – let us not just study games production, how might we actively engage with or intervene in game production cultures. The *Refiguring Innovation in Digital Games* (ReFiG) project, for example, was a five-year network of scholars in Canada, the US, the UK, and Ireland which took a feminist approach to studying games production, education, and culture. Its projects range from the 'Indie Interfaces' team who explored game intermediaries and game incubators, to studies of the emerging esports industry, and the LGBTQ video games archive, an openly accessible games archive of queer games from the 1980s to the present (Parker, Whitson, and Simon 2018).[3] My own contribution to this project was concerned with how game jams may replicate a very narrow set of game production approaches and problematic working cultures (Kerr 2021). Such an international research network enables researchers to compare their local and regional production studies and contextual specificities to other contexts to better understand the constraints and structures faced by game producers, both commercial and non-commercial. More international comparative research would be welcome.

Much of the existing games production research that I can access and read presupposes that game makers and designers have a stable electricity supply, a fast computer, access to a high speed internet connection that does not keep dropping out, and each developer has their own accounts that they do not share with others. Indeed, this is the view of the Western games industry that produces the tools, software, and frameworks that attempt to marshal the unruly process into a manageable and codifiable production process. It largely ignores the environmental impact of the extraction of minerals to make game hardware or the energy requirements of the vast data farms required to support the making and playing of these games (an exception is Huntemann and Aslinger 2013). Even studies of non-commercial or activist productions in Western countries find that many of them share tools, platforms, and approaches with their more

3 See https://lgbtqgamearchive.com/.

commercial counterparts. We need to actively look outside of firms and established game production research centres to scholars studying games production outside of the Western markets to get a sense of alternative modes of production and play.

The methodological issues faced by researchers in media production research more generally are shared by games production researchers: the inaccessibility or non-existence of a singular 'site' at which to do production research, the careful brand management by workers, and attempts by the industry to co-opt or directly fund academic research. The number of long term ethnographic production studies that are conducted in game companies are very few (and as noted above may not be an option for some), and qualitative expert, or elite interviewing needs to be approached critically to reflect on the intentions and meanings of the interviewee. We gain and lose by shifting to virtual and digital methods to understand production, but certainly there is a lot of scope for new and mixed production research methods. This might include more 'live' methods, which Les Back and Nirmal Puwar (2012) advocate and includes the development of new tools to attend to liveness and to conduct live investigations. It might include more digitally native methods such as scraping digital data and digital traces.

Finally, we need to consider how to care for and protect highly visible voices in the games industry and researchers who call for more inclusive and just games production cultures. Now, more than ever, those who suggest things might be otherwise may encounter online and offline harassment or worse. We need to support these colleagues and actively seek out our non-tenured colleagues, who are the future of our field. For now, the connections between tenured Western academics and globally dispersed academics are weak, despite the emergence of regional conferences, special interest groups and research centres. Their resources for travel and for producing in-depth production scholarship are limited. These games production scholars need support to have their voices amplified and to have their work valued in their home institutions and countries. In some senses, these scholars are our own 'below the line' workers. We might draw upon current themes in media production research which calls for 'good' forms of work (Hesmondhalgh and Baker 2011) – work that pays sustainable wages, has constrained working hours, is safe, values diverse inputs, and contributes to the common good. If games production research is to contribute to more inclusive games production studies, theories, and methods, it might also consider how it can be more inclusive in terms of its own academic community and cannon. Perhaps there is a need for a manifesto of care(ful) games research.

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Video games have entered the cultural mainstream and now rival established forms of entertainment such as film or television in terms of economic profits. As careers in video game development become more common, so do the stories about precarious working conditions and structural inequalities within the industry. In *Game Production Studies*, an international group of researchers takes a closer look at the everyday realities of video game production, ranging from commercial studios to independent creators. Across sixteen chapters, the authors deal with issues related to labour, production routines, or monetization, as well as local specificities. As the first edited collection dedicated solely to video game production, this volume provides a timely resource for anyone interested in how games are made and at what cost.

Olli Sotamaa is an associate professor of game cultures studies at Tampere University, Finland.
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"An excellent and much-needed collection exploring the politics, economics, and cultures of the contexts of games production. Essential reading for anyone interested in the making of games, with chapters engaging in theoretically and methodologically innovative studies spanning diverse geographic contexts and sites of production."
– Alison Harvey, York University

"This timely, authoritative and accessible volume is underpinned by a collective concern not only to describe and analyse game production, but also to identify and suggest more equitable and sustainable alternatives to current labour and production practices. As such it will prove a key text in study of games and games production, and the digital cultural industries more generally."
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