Aphra Kerr (2010), The Culture of Gamework. In: Mark Deuze (Ed.), ***Managing Media Work. London (etc.): Sage.***

While the digital games industry has become increasingly marketised and professionalized in its forty years of commercial existence, at the same time it has maintained some of its DIY roots and is somewhat ahead of other media industries in its attempts to facilitate and appropriate amateur productions. The increasingly globalised nature of digital game development gives rise to challenges and tensions related to managing development projects across transnational networks of companies, managing inputs of amateur producers and managing communities of players. The digital game industry is used today in media and communication studies both as an example of 'co-creative culture' (Jenkins, 2006; Raessens, 2005) and of 'precarious labour' (Kline, Dyer-Witheford, & De Peuter, 2003; Kücklich, 2005; Postigo, 2003 and 2007; Terranova, 2004). These concepts are not necessarily exclusive and both can be usefully employed to understand work in game production networks in particular (Kerr, 2006a) and media work more generally (Deuze, 2007).

To understand the culture of gamework we need to pay attention to the range of actors (human and non-human) in game production networks, the differences in power between these actors and the experiences of workers both within the development companies and those external actors they engage with. Increasingly game production networks flow beyond firm boundaries and certain functions are outsourced (e.g. human resources, middleware, testing, marketing, community support, content creation). Little is known about the relationships generated and how they are

managed. Most of our information on gamework is based on game 'postmortems' and interviews with professional developers (Cassell & Jenkins, 1998; Deuze, Martin, & Allen, 2007; Kline et al., 2003) with relatively little based on ethnographic work. These interviews tend to perpetuate the myths of individual/designer driven projects. The reality is much more market driven and subject to much negotiation between a range of actors.

Why so little actual ethnographic work in companies? Partly this relates to some of the issues examined in this chapter i.e. the desire to protect intellectual property rights and working conditions within companies. The digital games industry shares many characteristics with other cultural industries including, its youthful age profile, its flexible working hours, the erasure of boundaries between work and play, the need for constant re and up-skilling and a high degree of mobility amongst industry workers. However, while the industry tries to cultivate an image of a creative industry which maintains links to its anarchic/hacker origins, academics in Canada and North America have written about a culture of 'militarised masculinity' and of 'net-slaves' (Kline et al., 2003). Further, despite a decade of 'entrepreneurial feminism', the representation of women in the US and UK games industry has remained very low compared to other creative industries and experienced older staff tend to leave the industry. What research we have points to significant project and workplace management issues which impact negatively on the culture and experience of gamework.

This chapter adopts a sociological approach to analyzing how the digital games industry operates and how the culture of gamework is socially constructed through the

practices of a range of human and non-human actors. In the next section we examine the influence that globalization, industry consolidation and technology are having on the industry. We then examine how these three trends impact upon professional transnational production networks and the opportunities and challenges posed by technology, different occupational communities, modders and gameplayers. The data which exists would suggest that while the digital games industry is becoming increasingly professionalized, it is still an industry which is struggling with professionalism, where practices are often less formalised than in other media sectors and where employment for many workers is precarious (Gill & Pratt, 2008). These issues have serious implications for the diversity and retention of staff in the industry.

Overview of the sector and key trends

The digital games sector can be conceived as a cultural industry and displays many similarities with more traditional media industries in terms of relations of production, the role of publishers and the importance of distribution (Kerr, 2006a: 44-47). However, digital games are based on the commodification of play and the development of new technologies to mediate how players interact. Further, and in common with many traditional media sectors, digital games have embraced digital networks to develop new transnational networks of production, new types of games, new distribution channels and new and more productive relationships with their players. In order to understand the digital games sector we have to identify key actors in the production network which include: developers (amateur/professional), publishers, distributors, service companies, retailers, and players. These actors are

increasingly employing new technologies (another actor) to co-construct one off, persistent and serialized forms of content.

The idea for a new game can come from an individual but the most common practice is for it to come from an internal group within a development company or from a publisher, conforming to what Williams (1981-52) calls ‘market professional’ and ‘corporate professional’ market relations respectively. In both scenarios the idea is funded via an advance from a publisher and the level of royalties depends very much on the reputation and track record of the developer. Thus a new game concept is developed by a development team in collaboration with a publisher and if it is on a console platform, the platform manufacturer as well. At each stage during development there are milestones which must be met and on completion a quality approval process is usually conducted by the hardware manufacturer and/or publisher.

While development teams have internal managers these are usually overseen by a producer from a publishing company. Thus innovation and the creative process in the games industry can involve negotiation between different companies and although the core creative work is usually done within a single team within a development studio the ideas and concept must be negotiated with the funder. Artisanal productions still occur where individuals or small companies develop their own ideas and self-publish or deal with an aggregator (e.g. Kongregate). However, corporate relations with a publisher are still more common and such funding is supplemented with income from advertising and product placement. The widespread use of market research and analysis of player data indicates that production is increasingly shaped by market data rather than purely by development teams or companies.

While some development companies create games for multiple platforms many specialize in games for particular platforms and this is related to the fact that each sub-sector or segment of the industry is structured differently (Kerr, 2006a: 62). Developing for different markets – such as the console, massively multiplayer online or casual - requires different internal skill sets and competences and different external networks and relationships. For example, developing a game for a console platform requires one to deal with the hardware manufacturers and enter into their quality control system. Developing a game for the PC (web, MMOG, standalone) means dealing with a greater number of competitors but less intermediaries. Developing a game, or porting (i.e. translating) your game to a mobile platform, introduces major engineering and distribution issues as one must contend with different telecommunications companies and hundreds of handsets. However, developing a mobile, social or casual game for the web involves a much smaller team and amount of time as compared to the much longer console development process or the process to develop a retail PC game. Meanwhile developing an MMOG involves large teams of developers but also a large team of technical and community support to service the ongoing (i.e. persistent) game.

One trend which is clear is that the digital games industry is becoming more globalised in terms of the geographical spread of its production networks. This does not mean that ownership or control over production networks is becoming more diversified. In order to understand the spatial distribution of digital games production one needs to differentiate between where the production is geographically located and where the ownership/control of production and publishing is located. Traditionally the

key centers of publishing and development of games globally were in Japan, the US and the UK, followed by France, Germany and the Nordic countries. While publishing has continued to operate out of the US, Japan and France, development has now diversified and the top five (in terms of total numbers employed) include the US, Japan, Canada, South Korea and the UK (Skillset, 2006). Emerging centres include China and Eastern Europe. Increasingly, as in the film business, the production of digital games hardware and disks occurs in offshore low-cost locations like China, Taiwan, and Hungary while certain stages of software production are still occurring in high cost western industrial countries. Not quite so low cost locations, like Canada and South Korea, have benefited from substantial institutional and government support to grow their industrial base. Localisation and customer support functions are also moving to lower cost locations, near to market. Interestingly, development companies tend to be more regionally distributed within countries than many other creative industries. As production becomes more complex and companies require more specialized services this trend may change. Jennifer Johns argues that game "software production tends to operate within three supra-regional contexts" (Johns, 2006: 153). These regions are the US, Europe and Japan and they are demarcated by some arbitrary and some not so arbitrary technological, economic, social and cultural barriers. Thus even as the industry has moved towards a transnational production model, including off-shoring and outsourcing, the distribution of these products are regionally demarcated and controlled by a small number of privately owned multinational companies.

A second trend is the increasing growth of a small number of multinational companies through mergers and acquisitions and a focus on vertical integration. This is

particularly occurring in relation to the hardware manufacturers and some publishing companies. The total number of independent game development companies in the UK fell from 295 in 2000 to 166 in 2008 (Oxford Economics, 2008:4). While employment numbers remained largely static, independent companies were merging - growing into 'super-developers' with multiple production teams, or were bought out by publishing companies. From the late 1990s the industry has become increasingly concentrated, with a smaller number of companies controlling or effectively acting as gatekeepers in the console part of the industry in particular. Given that this is the largest part of the industry in value terms, particularly in the US, this concentration of power in a small number of American and Japanese companies is significant. One consequence of such concentration is the creation of barriers to entry making it very difficult for many first-time independent developers to reach certain markets (Kerr, 2006b). Another result of vertical integration is that publishers have greater control over the creative process and workers. This can involve indirect or direct project management, aesthetic input, market testing and in some cases the removal of intellectual properties from production teams. Control of the main console hardware platforms means control of the pace of technological change in these platforms and the quality of all content which gets published on the system.

If one was to examine publicly available data on the earnings and profitability of publishers the top three have significantly more earnings than the rest and are companies registered in the US and Japan.[i] Only Ubisoft and Atari/InfoGrames (both French) are challenging the dominance of American and Japanese companies in the top ten software publishers in digital games. At the same time, competition between the big three console companies is strong and there are disincentives to cooperating.

While there are a small number of very large companies in the sector there are also many small companies who are largely dependent on these large multinationals for access to capital and distribution networks.

A final issue which is crucial to any understanding of the digital games industry is the role of technology. Each new console does not simply mean an incremental increase in platform power and speed but can mean a complete re-appraisal of production networks, worker skills, budgets and management structures. With three competing platform systems each replacing their platforms almost twice a decade this results in particularly short cycles of creativity and innovation and places huge demands on education programmes and workers to re-skill. Meanwhile all of these platforms are now adding online capabilities and a variety of services including content downloads. This is to compete with a range of new competitors offering online game services via the PC (Jöckel, Will, and Schwarzer, 2008) and mobile phones. For example, Telltale Games in the US offers short episodic games for download and/or preorder DVDs including games like *Sam and Max* and *Wallace and Gromit.*[ii] Thus gaming platforms influence all elements of the games production process and companies and workers can become locked into the sets of competences and relationships which develop around particular platforms which can stifle their ability to innovate.

Working for the Digital Games Industry

How do globalization, consolidation and technological change affect work and managing work in the digital games industry? For current generation console developers there is a need to scale up development team sizes and this is having an

impact on the management of production and workers conditions. Today's development teams and budgets have grown and team sizes not unlike those for a small film are common so that managing the development process and streamlining the development pipeline have become major issues. Not all companies can make this transition. This is an industry with its origins in DIY non-commercial popular culture and many of its top managers are artists or programmers. Innovation scholars have highlighted the relative lack of process maturity in game companies in the US (Tschang, 2005) and the "low self-reflective capacity" of game firms in the UK (Grantham & Kaplinsky, 2005: 192) where "few firms embody structured and/or specialized management processes" (Ibid: 196). Some companies are turning to management techniques from the mainstream software industry (e.g. "agile" and "scrum"), to using middleware instead of developing all the code in-house, and to outsourcing to third party companies. They are also increasingly looking to get amateur players involved in playtesting, moderating online forums, and content creation (Humphreys, et al., 2005). By contrast, a UK trade mission to Japan was impressed with their management systems and ability to deliver projects within 18 months regardless of complexity (TerKeurst, 2002: 9).

In the US, Canada and the UK prevailing management structures and poor project planning often lead to poor working conditions. These include very high weekly working hours, particularly coming up to a deadline, which is called 'crunchtime' in the industry, a lack of remuneration for overtime and a lack of proper accreditation. Anecdotal stories and interview data have been backed up by quality of life surveys conducted by the International Game Developers Association (IGDA)[iii] which suggest that poor working conditions are relatively widespread. They also point to a high

expectation by workers that they will leave the industry within ten years. Workers in quality assurance departments where games are tested are particularly critical of working time and remuneration issues. Interviews in Canada have highlighted high levels of stress, long hours and an almost 'mercenary' expectation of employee loyalty (Dyer-Witheford & Sharman, 2005: 203).

The development of quality of life managers in some companies points to attempts to address working conditions (Deuze et al., 2007). But stories of poor working conditions still surface in the US and the UK, and attempts by professional associations to tackle them have had limited success. In Europe professional games associations and some governments have lobbied against a Working Time Directive, which attempts to limit the maximum number of working hours to 60 hours a week, saying such legislation would make it impossible for European game developers to compete with companies elsewhere.[iv] And while conditions in large studios have been the subject of press coverage, conditions in small startups and independent development studios who have little power to negotiate with their funders and fewer resources, remain under-examined.[v] The fact that some committee members of the IGDA explicitly support crunch time has lead to little effective action by the IGDA. In addition, little is know about conditions in Eastern European and Asian development companies who are working for hire.

Working conditions may account in part for the fact that in the UK the age profile of the industry is younger than the creative media workforce as a whole: three-quarters are aged under 35 years compared with more than two fifths (43%) in this age group across the whole creative media workforce (Skillset, 2006:4).[vi] Working conditions

may also influence the representation of women in the industry which is very low at 12%, compared with 42% of the wider creative media industries' workforce and the fact that people from a Black, Asian and Minority Ethnic (BAME) background make up just (4%) of the workforce. de Peuter and Dyer-Witheford (2005) found a similar demographic in Canada where the workforce was "relatively young, generally well paid but unevenly precarious, and overwhelmingly male". The lack of age, gender and ethnic diversity in the workforce is an issue which is only starting to raise its head at industry conferences, although gender diversity has been an issue for over a decade (Cassell and Jenkins, 1998). The IGDA has a 'Women in Games' special interest group and in both the US and Europe separate organizations exist to promote greater representation of women in the industry.[vii] These organisations would appear to have had little impact on the industry in the US and the UK to date.

Working conditions in the games industry are seldom critically examined in industry publications and recruitment articles can be particularly deceptive. A 2005 supplement with a games industry magazine in the UK stated "It is the most exciting industry in existence…..few people ever seem to leave…you just need skill, enthusiasm and determination." One interviewee when asked directly about work conditions stated they had "generally improved, though it's a long-term process and many studios are still trying to find the magic formula. Many larger and more global companies have the financial reserves and organisational infrastructure to incorporate policies such as holidays 'in lieu', flexitime, overtime payments."[viii] They went on to say that in a highly creative and demanding industry "a certain element of crunch" should be expected. In an industry with a high percentage of degree level/qualified workers (two thirds in the UK) it is interesting to read that few game courses are seen

as worthy of industry accreditation in the UK, companies have problems recruiting and there are skill gaps and shortages (Grantham and Kaplinsky, 2005: 198). Representative bodies like TIGA in the UK cite the lack of relevance of some university game courses and the attractiveness of jobs overseas.[ix] Companies who cannot find the appropriate 'talent' run their own training programmes or become involved in running university competitions. One European example is the 'Dare to be Digital' competition run out of Abertay in Scotland which gives student teams 10 weeks to develop a game prototype with industry mentoring.[x]

Encouraging game modding and hobbyist competitions are part of the industry's relentless search for adequately trained talent but the rules governing these practices demand more attention. Modding is largely made possible because publishers bundle tools and give support to the modding community. While modders work for free, the End-User Licensing Agreements governing the software involved makes it clear that ownership of the content produced remains with the developer/publisher of the game (Taylor, 2006: 125-150), and the tools create certain techno-aesthetic conventions that modders must operate within. Nieborg and van der Graaf (2008) explored *Counter-strike* modification teams which, though consisting of amateurs, conformed to the "high-risk, technologically advanced, capital intensive proprietary practice" of professional development companies. While many of these teams iterate on existing games they can also generate incremental innovations whose ownership and value remains the property of the publisher of the game. Kücklich (2005) argues that the games industry tries to maintain the perception of modding as play but in reality this "is the basis of the exploitative relationship between modders and the games industry". Indeed many academics have suggested that modders are a source of

financial value to companies (Kücklich, 2005; Nieborg and Van der Graaf, 2008; Postigo, 2007; Søtamaa, 2007). Others have pointed out that 'unruly modders' may actually require new management methods (Humphreys, et al., 2005). Certainly modders generate value for the professional industry either directly, if their outputs are commercialized, or indirectly through extending the lifecycle and marketing of the original work (de Peuter & Dyer-Witheford, 2005).

Working in the digital games industry shares many characteristics with other cultural industries including its youthful age demographics, flexible working hours, the erasure of boundaries between work and play and the need for constant re and up-skilling (Deuze; 2007; Gill and Pratt, 2008). One interesting difference which emerged from research in the UK suggests that the industry has a relatively low percentage of freelancers, just 8%, compared to 29% across the wider creative media industries. This does not necessarily reduce the insecurity felt by workers however. There appears to be a high degree of mobility amongst industry workers (both between game companies and into other media industries) and much of this is involuntary and due to what Vinodrai (2006: 246) would call "disruptions", i.e. takeovers, companies going out of business, projects getting shelved or companies moving projects or certain functions to low cost locations. The need to build up a portfolio combined with the industry structure, pace of technological change and production practices often act to undermine long term relationships with particular firms and the industry. Combined with the high degree of burnout in the industry these features militate against experienced designers and programmers staying in the industry and potentially impacts on the quality of management available.

With such uncertainty and mobility one might presume that workers would look to institutional communities beyond the firm for support. However the occupational and professional communities available to workers in this industry are fragmented. The project team for most commercial and some amateur productions draws upon two rather distinct occupational groups: programmers and artists/designers. Each has their allegiances to different communities of practice and while they must communicate with each other this is often not addressed in their primary qualification and is a skill which must be learnt on the job (Preston, Kerr, & Cawley, 2009). While they each have their own occupational knowledge communities there is rather weak professional representation for them as 'game developers' and in the North American and European contexts there are separate representational bodies for developers and for publishers. Quite often these bodies adopt opposing stances on issues of relevance to the industry, particularly on working conditions. The formation of a European Game Developers Federation (EGDF) signals an attempt to unify, but so far the focus has been on organizing events and lobbying for financial support from public bodies. This lack of unity within the industry is a barrier when it comes to addressing key issues facing the industry, particularly relating to working conditions.

Academics and game companies are increasingly realizing that game players also contribute to the culture of gamework. For some, 'it is through the labour of the players … that culture and community come to grow' (Taylor, 2006:133). In a very real sense players are involved in co-creation of the game through their interaction in the game and their contributions to a range of related artifacts such as websites. The contribution of a player through gameplay and the unseen use of player data to tailor in-game advertising and services certainly indirectly generate value (Andrejevic,

2009; Humphreys, 2008). Some players have turned their social and cultural capital into economic capital through real trading of items or through disruptive activities such as farming and cheating. Such disruptive practices stimulate game development companies to innovate to overcome such practices. Some companies, like CPP the company behind *Eve Online*, have introduced elected player councils to represent players and communicate directly with developers. [xi] Thus professional developers, modders and players operate in a dynamic relationship which is mediated by capital and unequal power relationships. The networks, communities and relationships created through gamework and gameplay are in clear tension with very individualized careers and legal restrictions on play.

Conclusion

The digital games industry operates on a global scale but ownership and revenues within the industry are increasingly concentrated in a small number of multinational companies headquartered in a small number of countries. Existing in a dynamic and contested relationship with these large corporations are many small development and service companies, modders and players. Increasingly production is driven by the market and by consumers who are players and in some cases modders. As digital games production has become corporatised and ideas for games increasingly are owned by, and come from, publishers the myth of the creative auteur recedes into the background. While bedroom modders still exist and indie teams toil to develop original ideas, they often modify these ideas in accordance with capitalist logic and the demands of multinational publishers. There are examples of co-creation in what could be conceived of as ‘open innovation’ networks but more common are examples

of multinational firms appropriating and in some cases exploiting the work of unsalaried gameplayers.

This chapter has focused on the culture of gamework in the US, Canada, the UK and Ireland. While certain characteristics are shared with other media industries, including the sense that work can be fun, other characteristics, like the longer term contracts, acceptance of crunchtime, lack of workforce diversity and ongoing loss of experienced staff may be more specific or at the very least more pronounced in this sector. The skills mismatches and shortages faced by the industry indicate that educational institutions, companies and workers have trouble keeping up with the pace of innovation in the industry. For all workers however the actions of a small number of multinationals and the rapid pace of technological change offer both opportunities and threats. Workers are not well equipped to deal with the threats. Many small to medium sized companies do not have proper human resource personnel and programmes. Worker representation at a collective level beyond the firm is poor and far from unified, particularly across borders. Similarly players and modders are dispersed and far from realising their direct or indirect value and power. In this context both professional and amateur game workers increasingly rely on informal and often virtually mediated networks and associations for support, information and knowledge in order to deal with the corporate and market needs of gamework.

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