# Into the Social Factory

## An Investigation into Labour & Value in the Video-Games Industry

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## Abstract

Questions regarding the relationships between new media technologies and contemporary capitalist dynamics are currently subject to considerable discussion and debate across myriad academic disciplines and schools of thought — notably (but not exhaustively) within various fields of sociological inquiry, current strains of Marxism and political economy, marketing theory and research, literature concerned with intellectual property and legal rights, and a whole host of other lines of investigation into the nature of production/consumption, labour/leisure, work/play, and their apparent commingling within a world predominated by the presence of new media. This thesis contributes to this debate in several ways. Firstly, it seeks to establish a set of theoretical trajectories, and gives consideration to the 'post-industrial' and 'information society' literature. This consideration reveals a noticeable marginalisation of the question of capitalism in the extant literature and research. As such, a turn to Autonomous Marxism and the 'social factory' thesis is suggested as a much-needed starting point for investigating the interrelations between new media technologies and (post-Fordist) capitalism. The thesis then raises points of critique to rethink the need for both (a) a conceptual understanding of the relations between capitalist dynamics, new media, and socio-economic change, and (b) research into specific (new) media industries and their attendant modalities of production and valorisation. The investigation then returns to Marx's formulation of the qualitative and quantitative dimensions of production, surplus value, and cooperation in order to consider how this can be mobilised as a foundational viewpoint from which to consider the *sociality of production* as central to the formation of economic life in *general*. From here, the thesis outlines the concept of 'sympathetic cooperation' (Terranova, 2014) and the proposed problem of the incommensurability of social production as two key framing devices for the case study on labour and value in the video games industry. Finally, these considerations are put to work through a two part case study on the video games industry that proceeds, firstly, to detail the history of its configurations of labour and value as it has developed since the 1960s; and secondly to investigate some of the prevalent directions of this new media industry's strategies for *identifying* and *valorising* potential sources of *value* — for seeking out the hitherto un-valorised.

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## Authors Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

# 1. Introduction: Initial Considerations and a Sketch of the Thesis

## 1.1 — **Video-Games: Some Initial Points for Consideration**

New and social forms of media have undoubtedly altered social life a great deal over the course of their development and adoption. Video and computerised gaming has developed at a phenomenal rate since its commercial inception in the 1970s. Starting off as the experiments of hacker hobbyists funded by the US military in the late 1960s, video-games soon became the subject of major commercial investment and industry organisation on a scale that, by the mid-1970s, established them as a multi-million-dollar consumer industry (Kline, Dyer-Witheford and de Peuter, 2003: 84-192). Today, video-gaming is positioned as one of the most profitable media-entertainment industries operating around the globe, and is estimated to be worth around $81bn USD by 2016 (DFC Intelligence, 2011). To put this figure in perspective, the 'global games industry' – an umbrella term employed by Kerr (2006) – was thought to be worth around 27 billion USD in 2002, amounting to a potential quadrupling of global revenues in less than a decade.

However, as Kerr (2006: 43-74) has demonstrated in her overview of digital games as a 'cultural industry', an accurate estimation of the total economic value of both hardware and software sales globally is extraordinarily difficult given the current diversity of markets, platforms, and genres available – a problem which is further compounded by the increasing introduction of service, rent, and other perpetual transaction models as methods of game provision. Nevertheless, although it is necessary to emphasise that sales figures and revenue reports vary considerably across the spread of sources available – most of which are either research agency bulletins, government and consultancy firm reports, or industry associated press releases (Kerr, 2006) – one thing is clear: the games industry is both considerable in size and continuing to grow, making it set to become one of – if it not the – dominant 'culture industries' of the 21st century. But the size, scope, and impact of gaming within popular culture can be seen irrespective of immense industry revenue figures such as those above. Indeed, one only needs to superficially survey the diversity of platforms and genres available today to discover that gaming permeates the everyday in an increasingly pervasive fashion.

Games are now played on mobile smartphones, home PCs, laptops, handheld devices, and consoles; they are becoming seamlessly integrated into transitional, domestic, and vocational spaces through the virtues of the near-ubiquitous internet; they are produced with an increasingly diverse range of player-demographics in mind, indicated by the emergence of dominant marketing tropes such as "casual", "hardcore", and "social" entering the ever-

expanding cosmos of game genre definitions. As Larissa Hjorth rightly points out, although it is important not to succumb to the "technofetishism" that surrounds much new media, it is equally important to acknowledge that games are moving onto centre stage as a dominant media form of 21st century entertainment – a movement which is reflected in the expansion of player demographics to include the young and old, male and female, and those less technologically literate within what she describes as 'the emergence of gaming as one of the most pervasive forms of global popular culture' (2011: 145). Such forms of technofetishism surrounding video-games are not difficult to locate. Indeed, one needs look no further than the celebratory hyperbole found within texts that consider video-games and gaming to be a future panacea for deep-rooted social problems (McGonigal, 2011)[1], and 'Web 2.0' as the embodiment of unencumbered collaboration and mass innovation — as the antithesis to mass production (Leadbeater, 2009).

Nevertheless, over the last decade or so there has been an immense ballooning of academic literature on video-games and gaming. Computer game *studies* – a term coined by Norwegian ludologist Espen Aarseth (2001) – is an established multi- and inter-disciplinary field that draws from a range of academic traditions such as economics, psychology, sociology, computer science, anthropology, arts and literature, media studies, and communication. Within this field of inquiry there are many specialised areas of research and literature, ranging from debates about 'computer game architecture and design' (Jenkins, 2004; Juul, 2006), to detailed studies of the emergent cultures and economies within 'massively multiplayer online games' (MMOG) (Castranova, 2005; Taylor, 2006a). However, rather than attempting to provide an overall summary of this rather broad field, the following shall (a) briefly outline the major areas of recent social scientific research on computer games and (b) provide a necessary critique of the current theoretical traditions that underpin contemporary computer game studies – most notably 'ludology' and 'narratology' (Dovey and Kennedy, 2006).

Social scientific interest in computer games has dramatically increased over the past decade, with new and innovative research areas emerging at an annual rate. For example, there is currently a growing interest in computer games from researchers in education (Mayo, 2009), healthcare (Deutsch, Borbely, Filler, Huhn and Guarera-Bowlby, 2008), and cognitive social psychology (Bartlett, Vowels, Shanteau, Crow and Miller, 2009); nevertheless, many of these fields are still in embryonic stages of development and remain highly tentative. A more

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1 With a distinctly darwinian flavour, McGonigal suggests that gaming skills and knowledge may soon confer an evolutionary advantage on those for whom it becomes a second nature (McGonigal, 2011).

substantial and well established area of social scientific interest has been the rapid development and widespread use of online games, especially MMOGs – generally referred to as 'virtual worlds' – such as 'World of Warcraft' and 'EverQuest' (for example see: Bainbridge, 2010). Within these vast simulated environments thousands of players from around the globe come together to participate in a variety of social networks, take on specialised roles, and contribute to the emergence of a rich and dynamic social milieu (Castranova, 2005, 2007; Taylor, 2006). However, although there is an emerging body of research that explores the potential for utilising MMOG designs for educational purposes – especially as a possible solution to problems with long-distance learning programmes (see for example: Albion, 2008; Childress and Braswell, 2006; De Freitas and Griffiths, 2008) – the vast majority of social scientific literature pertains to three general areas. These are: *game design research*, which, drawing heavily from the aforementioned field of ludology, seeks to systematically analyse how players (mis)use and interact with the programmed game mechanics (Achterbosch, Pierce and Simmons, 2008; Ducheneaut, Yee, Nickell and Moore, 2006); *game culture research*, which primarily focuses on emergent cultural practices and community structures *within* MMOG environments (Nardi and Harris, 2006; Seay, Jerome, Lee, and Kraut, 2004; Taylor, 2006); and, *game economics research*, which addresses the complexities of in-game economic relations and how these are giving rise to (a) the possibility for conducting 'naturalistic' economic experiments — particularly on supply and demand (Castranova, 2008) — and (b) various pecuniary and legal issues (MacInnes, 2006; Pappagiannidis, Bourlakis and Li, 2008**)**.

Much of the research within these three areas exhibits a general tendency to focus upon the "interesting" features of *in-game* environments by documenting in great detail the ways in which they are similar – economically, culturally, and systemically – to aspects of the "real" social world – that is, they focus primarily upon the *game as technology* and the *gamer* as interacting with and through *the medium of technology*. This, however, has been accompanied by a distinct lack of consideration for how and in what ways video-games and gaming are — and have been — (re)produced, commercialised, (re)configured within and through complex economic and cultural processes of organisation, reorganisation, management, investment, creative endeavour, mass manufacture, workforce mobilisation and so on. The lack of an identifiable body of literature on what I will tentatively refer to here as the political economic relations of the video-games industry and gaming is not only notable across disciplines of social scientific research; it is also exemplified by the preoccupations of the two major schools of thought within the aforementioned field of computer game studies — 'ludology' and 'narratology'.

The crucial difference between the 'narratological' and 'ludological' perspectives for studying computer games can be summarised as follows: proponents of narratology 'argue for the importance of narrative experience as part of the pleasures of gameplay' (Dovey and Kennedy, 2006: 148), whilst ludologists emphasise the need to consider 'the experiential nature of rule-based interactions' (Dovey and Kennedy, 2006: 147). Broadly speaking, key proponents of narratology **(**Ang, 2006; Jenkins, 2004; Mateas, 2004; Murray, 2004) have argued that games can be studied through recourse to existing literary and humanities methods of understanding *texts*, which the ludologists (Aarseth, 1997, 2001, 2004, 2007; Juul, 2003, 2006) argue cannot be the case since computer games are not conventional texts at all but an (inter)activity more akin to play or sport.

These two perspectives have – irrespective of their contested definitions – been fundamental in establishing the importance and need for serious academic study of computer games. However, despite their differences ludology and narratology adopt a similar *game as primary object of study* focus, which, whilst valuable for understanding how games are experienced as either stories or rule-based interactions, provides little conceptual groundwork for considering the ways in which the video-games industry — if, indeed, one can use this term in the singular, given the breadth and diversity of games and gaming — is founded upon processes of industrial enterprise, production, profiteering, market research, distribution and so on. In their book *Games of Empire: Global Capitalism and Video Games*, Dyer-Witheford and de Peuter reach a similar conclusion, stating that: '[m]uch of this literature is concerned with delineating the specific properties of games as media, describing their genres and conventions, and forming a lexicon with which to describe them' (2009: xxvi).

However, over the last few years there has been a growing interest from researchers concerned with investigating the ins-and-outs of production within the video-games industry. Although still a relatively minor area of literature in comparison to the aforementioned field of computer games studies, scholars working in this area have taken considerable steps towards problematising and interrogating the conditions, dynamics, and — often complex — processes of (co-)production within the video-games industry (see: Banks and Humphreys, 2008; Banks and Potts, 2010). Couched within a broader area of literature deriving from Cultural Studies that seeks to understand the particularities, contradictions, and processes of 'cultural work' within the 'creative industries' (for an excellent overview of this literature, see: Gill and Pratt, 2008), writers such as Banks and Potts (2010) have developed a range of conceptual devices that attempt to make sense of the ways in which consumers (or players in the case of the video-games industry) are becoming increasingly enrolled in production

processes — what they refer to as 'consumer co-creation' in which new '[m]edia consumers increasingly participate in the process of designing, producing and marketing media content and experiences' (2010: 253). Yet, even within this budding literature there is a noticeable reticence with regards to understanding these developments in terms of capitalist market forces and the possibility of forms of exploitation or resistance — however diverse these may be. Rather, there is an overarching concern for detailed understanding and description with the aim of arriving at a means to 'understand and model these emerging behaviours, agencies, identities and practices' (Banks and Potts, 2010: 254).

Somewhat in line with Dyer-Witheford and de Peuter's (2009) suggestion of contributing to 'critical analysis of video-games', I too would place myself firmly in this camp — if I was intent on contributing to a study of video-games *per se*. However, it is by no small feat that Dyer-Witheford and de Peuter (2009) have subjected the Video-game media format to a thorough and — at times highly entertaining, at others shocking — critique through the lens of Autonomous Marxist writers, particularly Hardt and Negri's notion of Empire and immaterial labour — their book is not mistakenly called *Games of Empire*. I too, like Dyer-Witherford and de Peuter am not interested in formally analysing video-games.

In this regard, of central central importance for scholars such as Hjorth is the current need — given the recent emergence of participatory and collaborative architectures in video-games and so-called 'Web 2.0' more generally — to 'consider the types of labour that players/users/produsers are performing as part of broader shifts in consumption/production paradigms' (2011: 48). Also, Hjorth (2011) adds, such an investigation must — in light of the need to think through the political economic relations of such processes — look far beyond the *market* hyperbole of "empowerment" and "exploitation", of unbridled creativity and inclusion founded upon a perceived ethic of *playful engagement*; as far as this goes, I am in full agreement with hjorth on the former of this false-binary, not so much the latter…

### 1.2 — **A Sketch of the Thesis: Theoretical Trajectories and the Present Investigation**

In the second chapter I want to provide an outline and critique of two schools of thought concerned with contemporary socio-economic change. Simply, these schools of thought: 'post-industrial society' (Bell, 1973) and the 'information age' (Castells, 2009, 2010a, 2010b); and, Autonomous Marxism which maintains that we are witnessing a 'post-Fordist' form of capitalist dynamics (Virno, 2004, 2007), frequently referred to as 'cognitive capitalism' (Berardi, 2009). The first of these schools to be discussed is the formalised

'theories of the information society', which, though differing in detail, gravitate around a core set of shared arguments regarding the nature and direction of ICT innovation and socio-economic change. After a careful reading of these two theories, a critique is offered up and articulated from the viewpoint of a number of thinkers who have noted a peculiar absence in literature on the information society — notably, that capitalism is not treated as a core concept for understanding socio-economic change, and it is not given consideration as a force or dynamic. In short there is, in the literature on the information society, a distinct lack of consideration given to what capitalism is, how it changes, *and the implications of this for understanding socio-economic change, its dynamics and direction.*

I shall then move to discuss a group of radical thinkers who, over the last two decades, have gained considerable attention — a group of diverse scholars who can be loosely categorised as 'Autonomous Marxists'. Their attempts at conceptualising the relations between transformations in labour, production, and digital media technologies has generated a great deal of discussion regarding the contemporary dynamics and functioning of capitalism. In this section I shall discuss two key themes: 'immaterial labour' (Lazzarato, 1996); and, the 'social factory' thesis (Terranova, 2000, 2004; Virno, 2004). The importance of these is stressed throughout as critical concepts through which to interrogate contemporary socio-economic and technological developments alongside placing questions concerning the logic(s), dynamics and organisational form of capitalism at the epicentre of analysis.

In closing the second chapter, I shall draw attention to how a reading between Autonomous Marxism and the focus in cultural studies research on the concepts of 'labour' can shed light on and open up a distinct and potentially fruitful perspective on one of the foundational components of Marx's legacy: the labour theory of value. In particular, my reading shall point to the concept of 'temporality' as an analytical motif that holds a possibility for fruitful dialogue between Autonomous Marxism and recent sociological literature on 'cultural work' and 'cultural labour'. This has special relevance to the key concept of life as a social factory — dissemination of the Fordist factory logic into all the *times* of social life. In general, however there is noticeable grumbling from 'cultural labour' scholars regarding a disparity between the overarching breadth of the Autonomous Marxist concepts and the need for "on the ground" analyses of particular industries, and of particular production processes. In response to this, I want to suggest that a return to Marx's (1983) formulation of the qualitative and quantitative dimensions of production might be a useful place to begin thinking about this possibility, especially if we consider placing how and in

what ways everyday activities are becoming, and have become, enrolled in the generation of value.

In the third chapter, then, I proceed to provide a two-part outline of the theoretical framework that underpins and informs this investigation. This chapter focuses on a specific set of arguments that proceed from Marx's formulation of the qualitative and quantitive dimensions of production, to his theory of surplus value and cooperation. Marx's formulation of the qualitative and quantitative relations of production is of central importance to the overall narrative of this thesis. The second section of this chapter then moves to discuss the more recent literature on social production and, more speficially, the notion of 'sympathetic cooperation' through the recent works of Maurizio Lazzarato (2008) and Tiziana Terranova (2009; 2014) in order to highlight the importance and primacy of of the *sociality of production* as a way of conceptualising the primacy of qualitative social relations to all forms and configurations of production, including economic production.

The main aim of the third chapter is to work through and highlight how an understanding and working through Marx's formulation of the qualitative and quantitative dimensions of production can be mobilised to construct a framework of concepts with the explicit purpose of interrogating the intricate interrelations between, on the one hand, broad (structural) questions regarding socio-economic change *and* capitalist dynamics and, on the other, the particularity of processes of production as they take place "on the ground", within certain contexts, temporalities, and through *social relations*. A return to Marx's core categories of analysis and a foregrounding of the concepts of labour, value, and cooperation constitutes the groundwork from which I intend to *begin* an *investigation into* the video-games industry.

The fourth chapter of the thesis tells the history of the video-games industry on the basis of "key Moments" — as such it is perhaps useful to provide summaries of these. The following is a brief overview of the narrative that chapter 4 lays down. The rise of computerised games to the forefront of 21st century commercial entertainment forms the starting point of chapter four with major changes, crises, and innovations occurring over the fifty-year period since its inception in the early 1960s. The start with this decade and work through the 70s and 80s with a view to unpacking the ways in which the innovations of key actors and research groups became subject to processes of commercialization, venture capital speculation, and corporate organization. Indeed, the games industry – with its beginnings in the U.S. 'military-industrial complex' of Cold War research and playful 'hacker culture' (Kline, Dyer-Witheford and de Peuter, 2003: 84-108) – has a far from straightforward history of technological and commercial development that, when laid out, reveals a great deal about the

lineage of its economic organization and, moreover, how this is reflected by key developments in the ways labour and processes of value-production have been profitably (re)configured.

Although a great deal has been written on the history of the games industry, much of this has tended to focus upon what can be loosely termed the 'genealogy of technological innovations' – that is to say, much of this literature emphasises the chronology and people associated with the invention of gaming *technologies* (see for example: Herz, 1997; Hjorth, 2011: 19-25; Kent, 2002; King, 2011; Poole, 2000, 2004). As Kerr surmises, this literature is useful to the extent that it organises and classifies an otherwise messy set of events into neat temporal boxes (2006); however, it provides little in the way of a critical understanding of the historical connections between the invention of gaming technologies and the wider contexts of cultural and economic change within which they emerged and became subject to commercial forces. In particular, scant attention has been paid to the historical interconnections between (a) the practices and innovations of key figures and organizations involved in the invention of gaming technologies, and (b) the establishment of commercial configurations of production and lines of profit-accumulation – in short, the interconnections between the formation of the games industry and broader developments within the organisational logic of capitalism over the latter half of the twentieth century[2]. An important theme for such an analysis to adopt, as Kline *et al.* make clear, is an interrogation of the ways in which the logic of capital has moulded, managed, and appropriated the emergence of digital play and its possible futures (2003) through a potent dialectic of *financial venture and speculation* on the one hand, followed by *phases of economic development and (re)organisation* on the other — the result, of course, being what can only be described as *a relatively continual growth* of the games industry over the last half a century.

As the home console market was undergoing its tumultuous development in the consumer market, a new platform for commercial growth was emerging in the video game sector: the personal computer (PC). The computer's transition from its military-industrial routes to household appliance via the U.S. hacker culture of the late 1960s and 1970s provided the entry point for new and expanded possibilities for commercial investors. While PC gaming was present throughout the 1980s, the initial financial incentives for PC manufacturers came in the business and education industries; gaming was an ancillary, but significant benefit. By

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[2] The work of Kline, Dyer-Withford and de Peuter (2003), along with the more recent work of Dyer-Witheford and de Peuter (2009) is, to the best of the author's knowledge, a sole case in point here. However, the recent work of Donovan, entitled *Replay: The History of Video Games* (2010), provides brief glimpses of such an interconnecting analysis amongst what can best be described as a flurrying and disjointed glut of journalistically organised information.

the 1990s and the proliferation of the internet and the introduction of the World Wide Web, PC gaming developed into a full-fledged market of its own.

The two related developments that resulted in particular successes for the PC gaming industry were the platform's ability to adopt new technologies, like CD-ROM hardware, allowing for scaling complexities and graphical quality to the gaming experience. This, coupled with the rise of the internet as a conduit for player-to-player co-operation and competition without needing to occupy the same physical space provided PC manufacturers and software developers new commercial opportunities. The internet also provided another boon: a new platform for the selling and distribution of video games. No longer were sales dependent upon the existence of brick-and-mortar storefronts; it was now possible to expand sales into subscription or rent-based models to expand the platform's profit-accumulation capacity. Equally, it allowed developers to capitalise on the efforts of the gaming 'community' to engage in beta testing and quality control efforts prior to a product's release. This merging of elements of 'play' and 'labour' have been incorporated into a unified logic: 'playbour' (Hjorth, 2011 and Kückluck, 2006) Hjorth extends this notion of playbour to other fields, such as new media and an extensive expansion of consumption/production paradigms increasingly adopted by distributors of interactive entertainment. I aim to expand on upon this, but to also consider a more fundamental point: to what extent is *productivity* becoming indistinguishable from *non-productivity?* For this investigation, an understanding of value and processes of valorisation is critical

**The fifth chapter of this thesis constitutes the substantive analysis of video gaming industrial practice and organisation. The main question it poses is, in light of Marx's theory of value, where might we look to find hints or evidence of valorisation processes within the remit of an investigation into the video-games industry? As I intend to demonstrate, such questions do not require one to look to the peripheries or the margins, but to the recent debates and developments that have occupied — and, in many cases, that are still occupying — centre stage within the video-games industry.**

**The first section of this chapter looks at the views on monetisation expressed by leading industry figures and officials, and asks the question: how since the turn of the millennium, the video-games industry has developed in a variety of directions. For example, multiple forms of monetised exchange practices *within* online game worlds now exist alongside an emerging plethora of so-called 'social' and 'mobile'**

**games based around a "new" revenue model. The latter is referred to throughout the video-games industry as 'free-to-play' (or 'freemium') gaming, and has come into widespread commercial use in recent years. These developments are particularly notable as they represent core shifts and changes, and exemplify the way the video-games industry has reflected upon — and responded to — new ways of *thinking* about of value and methods of valorisation — they exemplify, to invoke Graeber (2001) once again, the ways in which the video-games industry has acted and reflected upon its currently existing 'system of value'.**

**The other key factor, perhaps less well known, but equally salient *within* the games industry, is the recent burgeoning of 'game analytics' companies. A particularly noteworthy example of a game analytics company is Games Analytics (now known as 'Delta DNA'): specialists in providing video-game publishers with detailed metrical analyses of player behavior 'right down to event level' in order to provide advice and direction on how to identify "untapped" sources of value and, thereby, further monetary gains. The emergence of such companies, I shall argue, is indicative of the ways in which value, as a central subject of continual action and reflection within the context of the video-games industry's commercial logic(s), is being placed under increasing levels of metrical examination and *quantitative* analysis.**

Overall, what I intend to demonstrate is that such developments can be understood and investigated in considerable detail through a focus upon the relations and processes of how labour and value can be understood in both qualitative and quantitative terms, and that there is a fundamental connexion between these that becomes apparent when one considers the following: how are the qualitative properties of social life in general subjected to systems of measurement. Such a focus can provide an insightful means of interrogating the broader question of how new media industries are driving — and benefitting from — innovations in the production logic(s) of capitalist markets. A detailed and grounded consideration of questions regarding the ways in which value and valorisation processes operate through, reshape, and inform the commercial calculations of the video-games industry today constitutes the final stage of this investigation.

This introduces the overarching research question for this inquiry, which will be further refined in Chapter 3: *how is (qualitative) sociality subjected to (quantified) capitalistic valorisation?* With this in mind, the thesis will proceed to outline and critique the range of aforementioned developments through an investigative consideration of recent trends in the ways that *monetisation*, *measurement*, and *game design* are being both researched and discussed as ways for

*thinking* about, *identifying,* and *valorising* potential sources of *value* within the video-games industry. The primary overarching research question (above) of the thesis will therefore be interrogated through three more specific questions:

(i) "what have been the sources of labour and value in the video games industry throughout its historical and commercial development?"

(ii) "what are the sources of labour and value in the video games industry today, and how, if at all, have these changed over time?"

(iii) "what are the means of valorisation in the modern video-games industry?"; and,

(iv) "how and in what ways is *value* being identified and acted upon within the video-games industry today?"

# Section I

# Theoretical Trajectories: Labour and Value in The Social Factory

'All the basic concepts of political economy express, as we have seen, *social production relations among people*. If we approach the theory of value from this point of view, then we face the task of demonstrating that value … is a social relation among *people*' [original emphases] (Rubin, 2010: 63).

'Here, the production of oneself is the production of wealth and vice versa; the basis of the production of wealth is the production of oneself. Potentially, work — in the sense it has in political economy — is eliminated: 'labour … appears no longer as labour, but as the full development of [personal] activity itself' (Marx, 1973, quoted in Gorz, 2010: 14-15).

## 2. A Social Factory? From post-Industrial Society to post-Fordist Capitalism

In this chapter I want to provide an outline and critique of two schools of thought concerned with detailing the relationships between technological developments and contemporary socio-economic change from the early-mid 1970s onwards. Put somewhat simply, these schools of thought are: sociological literature pertaining to what is often referred to as the rise — or coming — of 'post-industrial society' (Bell, 1973) and the 'information age' (Castells, 2009, 2010a, 2010b); and, Autonomous Marxist writings on the ascendancy of a 'post-Fordist' form of capitalist dynamics (Hardt and Negri, 2000; Marazzi, 2008; Virno, 2004, 2007), frequently referred to as 'cognitive capitalism' (Berardi, 2009; Vercellone, 2007). The first of these schools of thought is what Frank Webster (2006) has termed 'theories of the information society', which, though differing in detail, gravitate around a core set of shared arguments regarding the nature and direction of ICT innovation and socio-economic change. Most prominent amongst the theorists of the information society are the works of Daniel Bell (1973) and his theory of 'post-industrial society' on the one hand, and Manuel Castells' (2004, 2009, 2010a, 2010b) writings on the 'network society' and 'informational capitalism' on the other. In the following section, the work of these two theorists shall be outlined and critiqued as archetypal representatives of what Webster (2005) hails as the kinds of macro sociological analyses of socio-economic change that, combining theory and empirical evidence, have been distinctively lacking within British sociology since the 1980s and the 'cultural turn' towards focused, localised studies of work and employment.

Whilst casting the work of Bell and Castells in this light allows one to acknowledge the current lack of macro-level sociological analyses of the major contours of social change, it likewise opens up a point of departure from which to subject their narratives to another angle of critique – notably, their seeming lack of a *critical* engagement with key political economic issues regarding the ways in which technological and socio-economic change is both shaped by — and generative of — capitalist market dynamics. This is most clearly demonstrated within the work of Bell and Castells by a notable paucity of attention to questions concerning the labour process, the production of (surplus) value, and (potential) changes in capitalist accumulation strategies as *fundamental* characteristics of contemporary socio-economic change. In short, I will argue in the following section that there is a distinct lack of focus on questions concerning the operative logic(s) of capitalism itself within this 'information society' literature, most of which considers technological developments and the rise of 'knowledge work' (Bell, 1973) as key drivers of contemporary socio-economic change.

The school of thought that enters at this point of departure is the Autonomous Marxist school of political economy deriving from the Italian 'Workerist' movements of the 1960s and 70s (Peters and Bulut, 2011; Toscano, 2007), which, over the last two decades, has gained considerable attention as a body of social theory that addresses the relations between transformations in labour, value-production, and digital media technologies. Grounded in critical re-readings of Marx's lesser-known writings compiled within the *Grundrisse* (1973), this area of literature has generated an enormous amount of research and discussion regarding the contemporary dynamics and functioning of capitalism, especially in relation to the ways in which labour and economic production have come to intersect with networked information technologies and digital media. In this section I shall provide a detailed outline of two key concepts employed by these Autonomous Marxist thinkers in their schematic analyses of 'cognitive capitalism' (Vercellone, 2007), post-Fordist production (Virno, 2004), and (free) labour in what many of these commentators refer to as the digital or "new" economy (Berardi, 2009; Terranova, 2004). These are: the notion of 'immaterial labour' (Lazzarato, 1996) and the 'social factory' thesis (Gill and Pratt, 2008; Terranova, 2000, 2004; Virno, 2004), both of which combine to form a perspective centred upon critiquing contemporary socio-economic and technological developments that places questions concerning the logic(s), dynamics and organisational form of capitalist accumulation at the epicentre of analysis. The purpose in detailing these concepts is to show that – at a time (particularly in the 1990s) when sociology and cultural studies appeared to be failing to provide viable theoretical frameworks for understanding emerging interrelations between new and digital media technologies and the systemic functioning of capitalist dynamics (see: Burrows, 2005; Gane, 2003, 2005; Webster, 2005) – the Autonomist Marxist school of thought carried out the important role of maintaining a critical focus upon capitalism as a (perhaps *the*) core driver of contemporary socio-economic change from the mid 1970s onwards. In particular, this school of thought provides a key point of departure from the sociological analyses offered by thinkers such as Bell and Castells by maintaining *a critique of* the political economy of information technologies and new media through an engaged reworking of the Marxian concepts of labour, value and production.

Finally, in the closing section of this chapter I shall offer up some much-needed points of critique and conceptual tempering that can be found within the emerging empirical scholarship on 'cultural work' and the 'creative industries', much of which maintains a strong focus upon the specific roles and daily working lives of designers, artists and new media/ creativeworkers (Banks, 2007; Deuze, 2007; Gill and Pratt, 2008). This emerging area of literature, which, interestingly, Gill and Pratt refer to as 'the recent 'turn to labour' in cultural

studies' (2008: 17), brings to the fore two important points for consideration when discussing and developing the aforementioned notions of immaterial labour and the social factory thesis. Firstly, given the criticism levelled at Cultural Studies for failing to address the emerging interrelations between new media, capitalist dynamics, and processes of production in the 1990s — and the well-known conflict between representatives of Cultural Studies and Political Economy that came to a head in 1995 (see: Babe, 2009) — it is readily apparent that this 'turn to labour' represents a key resource through which one can begin to think through and carve out a perspective that is sensitive to (a) the need to make sense of contemporary socio-economic change and emergent forms of work *as expressions of — and responses to* — capitalist dynamics and strategies of accumulation, and (b) the need, as Gill and Pratt (2008) suggest in their overview of the Autonomist and cultural work literatures, to pay close attention to the specificities of different industries and their attendant modalities of production. Throughout this chapter, I shall endeavour to outline the key points of debate and discussion that surround these modes of thought and highlight the ways in which the Autonomous Marxist and 'cultural labour' bodies of literature have informed this study of the video-games industry. More specifically, I shall focus heavily on the ways in which these bodies of literature bring to fore a number of concepts and ideas that can be put to work to further our understandings of both the ways in which capitalism operates as an adaptive socio-economic system, and the everyday places we might look to to develop such understandings.

Thus, in closing, I shall point to how a reading between these two perspectives opens up a distinct and fecund space for returning to one of the foundational cornerstones of Marxian political economy: the labour theory value. In particular, my reading shall draw heavily upon Gill and Pratt's discussion of 'temporality' as an analytical theme that holds the possibility for fruitful dialogue between Autonomous Marxism and sociological work on cultural labour, particularly in relation to the idea that everyday social life — that is, both work and non-work time — is becoming subject to capital to the extent that we might suggest a 'takeover of life by work' (Gill and Pratt, 2008: 17), a dissemination of the Fordist factory logic into all the *times* of social life — in short, what Autonomous Marxists have adequately termed the 'social factory' (Terranova, 2000, 2004; Virno, 2004). Importantly, however, Gill and Pratt (2008) point to a disparity between the overarching breadth of the Autonomous Marxist notions of 'immaterial labour' and the 'social factory' and the need for focused analyses of particular industries and the ways in which production within these may, or may not, exemplify the general socio-economic trends these concepts refer to. In response to this, I want to suggest

that a return to Marx's (1983) theory of *value* — and a turn to the concept of *value and valorisation in general* — affords the possibility of supplementing these broad-brush notions of immaterial labour and a seemingly homogeneous social factory with much needed details regarding how and in what ways everyday activities are becoming enrolled in the generation of value and wealth, how quotidian tasks not commonsensically thought of as work or labour might be understood exactly in these terms. My aim in providing such a discussion is to show how a consideration of labour and value *as deeply interconnected concepts* can be mobilised as a means to provide the kinds of focused analyses Gill and Pratt (2008) call for without jettisoning the importance of concepts such as immaterial labour and the social factory — that is, concepts that highlight general trends and changes in the socio-economic organisation of social life.

## 2.1 — **The Information Society: Sociological Accounts of Knowledge Work and Informational Labour**

Questions regarding societal and economic changes that have come about with the widespread dissemination of new media technologies into everyday social life have been a major preoccupation of sociological scholarship since the writings of Daniel Bell and his predecessors in the early 1970s. Since then, many social scientists from a variety of backgrounds have conducted research and developed theories pertaining to the ways in which new communication technologies, information processing, and knowledge are reworking established modes of social and economic organisation. An underlying assertion of many of these theories is that we have – and are continuing – to witness major changes in the operation and organisation of contemporary economies due to technological innovations in the ways in which we analyse, utilise, and network information throughout our daily lives. Various equivocal concepts have been put forward in an attempt to capture these developments under a single heading, the most widely employed being Daniel Bell's (1973) 'Post-Industrial Society', Manuel Castells' (2001, 2010a) dual notions of a 'Network Society' and an 'Information Age', and the more general umbrella term 'Information Society' (Mattelart, 2003; Webster, 2006). These various theories, bracketed by Frank Webster (2006) under the single heading *Theories of the Information Society*, constitute the mainstream of sociological literature relating to the socio-economic impacts, organisation, and changes effected by the innovation and dissemination of new media technologies; they all attempt to grapple, in their variously similar ways, with the defining features of economies built around

the everyday use of new media and ICTs. In what follows, I want to provide a brief outline of these mainstream theories with an eye to highlighting what I consider to be a distinct lack of *critical* focus upon the ways in which new media technologies are becoming increasingly bound up in and generative of (potentially 'new') political economic configurations. The overall aim in providing such a starting point in mainstream sociological theory is – in a similar vein to that of Frank Webster's (2006) critique of *Theories of the Information Society* – to demonstrate that much of the perceived social impacts of ICTs and digital media present within this body of literature are either overly simplistic in their conceptual schematics, or positively misleading in pronouncing – in a typically uncritical and hyperbolic fashion – an 'information revolution' that will overhaul all that has gone before it.

### 2.1.1 — *Daniel Bell and Manuel Castells: From Post-Industrialism to the Network Society*

One of the first instantiations of a sociological theory that deals with supposed societal transformations resulting from innovations in informational technologies and their economic deployment is Daniel Bell's (1973) theory of 'post-industrial society'[3]. Widely recognised as perhaps the first major sociological instalment in the collection of theories relating to the 'information society' thesis (Webster, 2006), Bell's theory outlines a series of arguments based upon a swathe of socio-economic data that purport the arrival of a new era of societal reorganisation he calls 'post-industrial society'. For the most part, this theory focuses upon the ways in which economies are being transformed and occupational systems reworked due to changes in the character and role of scientific knowledge, its application, and the ways in which this shall influence social (re)organisation in the future. A key aspect of Bell's theory that has come to define much of the subsequent sociological literature on the information society is the emphasis he places upon (a) the supposed shift from a goods-producing economy to a 'service economy' as the basis of growth and productivity, and (b) the rise and role of a new 'intellectual technology' that can be mobilised to deal with societal issues containing a large amount of variables and probabilities – of which the modern computer is a quintessential example for Bell (1973). The emphasis Bell places upon these two facets of his theory can hardly be understated. Indeed, in a typically hyperbolic fashion, Bell states that '[t]he goal of the new intellectual technology is, neither more nor less, to realize a social alchemist's dream of "ordering" the mass society' (1973: 33). An important corollary here is

[3] Although Bell does not employ the term 'information society' initially, it has been noted by some that he adopted the term as a synonym for 'post-industrial society' in later works (see: Mattelart, 2003; Webster, 2006).

that Bell envisions these new intellectual technologies giving rise to a new system of professions in which a 'technical class' of 'knowledge workers' emerges as the predominant occupational group in the post-industrial society. Placed alongside the perceived shift from a goods-producing economy to a service economy, these changes in the occupational structure toward a predominance of 'knowledge work' constitute nothing less for Bell than a major overhaul of ways in which production and its mode of operation are socially organised; in short, a complete transformation of labour and employment markets away from manufacture and towards a 'centrality of theoretical knowledge as the axis around which new technology, economic growth and the stratification of society will be organized' (Bell, 1973: 112).

During his discussion and analysis of the shift from goods to services, Bell (1973) suggests that in post-industrial society it is not raw muscle power that counts, nor energy; it is information, and this shall be transmitted through scientific education and training in order to equip the new professional with the kinds of informational skills needed to become an in-demand worker of the coming economy. This line of argument leads Bell to conclude that the chief problem facing post-industrial society is the organisation of scientific knowledge – and its primary institutions, the university and research institute – since this shall become the foundational source of economic productivity and skilled workforces. Moreover, this overwhelmingly neat conclusion serves as the basis for Bell's forecasting (the term he employs in the subtitle of the book) prediction that the science-based industries would come to predominate the ground of the economy and that science and education policy would pose the core political problems of the coming post-industrial society. Thus, for Bell the post-industrial society is characterised by 'a common core of problems, hinging largely on the relation of science to public policy' (1973: 119), which in turn relates directly to the gravitation of scientific occupations and 'knowledge work' towards the core of economic productivity.

Labour and economic productivity — according to Bell's predictions — was to become so radically overhauled by the proliferation of 'intellectual technologies' and knowledge-based occupations that it would challenge previous – at the time, predominantly Marxian (Bell is referring here to writers such as Radovan Richta (1969), Andre Gorz, (1967), and Alain Touraine (1974) – understandings of political economic and social change, especially those relating to social class, to such an extent as to render them obsolete. An important point to establish here is that, although Bell explicitly declares Marx as the source of his interest in social change, there is a strong rejection of many Marxian principles of political economic analysis woven throughout his work. For example, Bell (see 1973: 54-63) dedicates considerable effort to outlining why the theoretical schema found within volume

one of Capital is, in his terms, mostly redundant (Bell terms this 'schema one') and that the only prescient work of Marx is to be found within volume three – what he calls 'schema two'. Despite this marginal endorsement, Bell (see 1973: 63-80) goes on to state that, at the time of his writing, *all* sociologists in the West have become 'post-Marxists' and that most of Marx's theoretical system has been falsified by a demonstration 'that there is no intrinsic tendency for the rate of profit to fall; that the State has been able to intervene and soften, if not prevent, economic crises; and that technology has been an open frontier for the reinvestment of capital' (1973: 62). This explicitly 'post-Marxist' position underlies much of Bell's theory regarding post-industrial transformations in labour, employment markets, and economic production to the extent that there is little critical engagement with enduring political economic issues such as unemployment or labour exploitation; moreover, many of Bell's claims regarding the complete negation of economic crises and constant profit rates have been placed into question by a string of developments over the last three decades, the 2008 economic crisis being the most recent example.

Nevertheless, for the most part Bell's theory of post-industrial society remains unconnected to any form of emancipatory critique of capitalism, its internal contradictions or conditions of exploitation; indeed, Bell's theoretical position swings far enough in the opposite direction to suggest that 'there is no evidence – in theory or reality – that capitalism must collapse from economic contradictions within the system' (1973: 63). Although this may seem striking given his initial endorsement of Marx as a necessary starting point for *any* analysis of social change, it is nonetheless clear that Bell's position is tied to a belief that Marx's theoretical system is dedicated to the denial of the possibility of indefinite capitalist expansion, rather than an analysis of the specifically economic breakdown of capitalist production (Bell, 1973). It is a dedication to the latter of these two programs – an analysis of the specifically economic breakdown of capitalist production, devoid of any critique of it as an exploitative or potentially contradictory social system – that leads Bell to the conclusions outlined above; in short, that the post-industrial society of the 'future' will be predominated by the occupational roles of the scientist, the professional, and the technician as the core drivers of economic productivity and capitalist accumulation, that labour will come to be characterised by knowledge, service work, and information technologies. As an additional point to this, Bell (1973) goes on to forecast – in a distinctly Marxian manner – that the forces of production (technology) will come to replace social relations (property) as the major axis of capital accumulation in society. Nevertheless, the crucial point to emphasise here is that Bell's theory of post-industrial society – in which labour and economic production comes to gravitate around knowledge and informational service work – is centred

solely upon the proposition that it is occupational change that shall be the primary socio-economic outcome of innovations in information technologies and their application.

In sum, Bell's 1973 experiment in 'social forecasting' – a theme he revisited in 1987 with a surprisingly cogent analysis of 'The World and the United States in 2013' (Bell, 1987) – predicted that society and, more specifically, economic production would undergo fundamental transformations; for Bell, labour and occupational groups would become increasingly focused around the application of scientific knowledge, innovations in computing technologies, and a growth in the provision of services. Although reflection upon this prediction from today's standpoint would find it too vague and broad-stroked to be comparable against current trends, Bell's theory of post-industrial society has remained influential within mainstream currents of sociological analysis. Of particular note here is that Bell's sweeping conception of the relations between information technologies, the application of knowledge, and socio-economic change has been subjected to a great deal of analytical application and revision within mainstream sociology throughout the 1990s and 2000s, much of which is distilled in the extensive work of Manuel Castells.

Perhaps the most widely cited theorist of the 'information society' literature, Manuel Castells has produced a monumental quantity of scholarly undertakings pertaining to the impact of new media and ICTs upon contemporary (Castells uses the term 'global') social change, the most well-known of these being the three-volume book *The Information Age: Economy, Society, and Culture* (2009, 2010a, 2010b). Although Castells adopts the term 'network society' in place of information society, these are nonetheless equivocal concepts for bracketing a whole series of socio-economic developments under one heading; indeed, Frank Webster (2006) clarifies this point by demonstrating that the central arguments underlying these concepts amount to a singular, straightforward conviction that quantitative changes in information and information processing are bringing a qualitatively new social system into being, whether that be the 'information society' or the 'network society'.

In his outline of what constitutes the 'network society' Castells (2004, 2010a) dedicates a considerable amount of time to a discussion of the organisational logic of what he ambivalently terms the 'new' or 'information' economy. For Castells (2004, 2010a), the 'new' or 'information' economy comprises three interrelated components: firstly, a *new model of productivity*, characterised by the capacity of information technologies to enable greater feedback between the production of knowledge and its application in the generation of wealth; secondly, a *global economy* made possible simply because of a 'new technological basis' upon which capital markets, major multi-national corporations, and highly skilled labour

forces can operate as a single unit in real time on a planetary scale; and, thirdly, a *new organisational form* that, through the gathering of resources in a very flexible way around a project, serves as the basis for productive performance in the information economy – Castells call this organisational form the 'network enterprise'. Importantly, Castells clarifies that the information economy is not just the internet or the dotcom economy; rather, '[i]t is an economy in which companies – or firms or entrepreneurs – around the world are working on the basis of Internet and in which their organizational and innovation logic is embedded in the Internet or related information technologies' (2004: 150). As nuanced as this may seem, Castells (2004) goes on to suggest in a seemingly vague fashion that the information economy is predominantly built upon the ability to do things in a new way with new information technologies, the most important of which being the capacity to constantly feedback scientific knowledge and information into processes of production, management, and distribution. Here it becomes clear that, for Castells, the key determinant of contemporary socio-economic change is innovations in the technical ways in which knowledge and information are produced and fed back into processes of economic production – a conclusion strikingly similar to that of Bell thirty years previous. In sum, economic production in Castells's vision of the 'network society' is based primarily upon developments in information technologies and their capacities for creating, distributing, and applying knowledge. Thus, for Castells 'the first feature of the information economy is the ability to develop through information and communication technologies knowledge-based, innovation-based productivity growth' (2004: 152).

Another core aspect of Castells' (2010a) theory of the network society that derives directly from his conceptual schematic of productivity in the information economy is the rise of occupations based around what he calls 'informational labour'. Again, the resemblance to Bell's theory of post-industrial society is evident here as Castells conceives of 'informational labour' in much the same way as Bell conceives of 'knowledge work'; that is, as a seemingly homogenous occupational form that, for the most part, entails the productive application of knowledge and/or a provision of services based upon the utilisation of key informational skills and technologies. Unfortunately, Castells devotes very little time to providing a clear and precise definitional breakdown of 'informational labour' and its properties as a mode of economic production.

There is, however, a set of arguments laid out in *The Rise of the Network Society* (2010a) regarding 'the transformation of work and employment' that provide some clarification of Castells' thoughts on 'informational labour'. In sum, the argument proceeds as follows: the most important change in the information economy is the key role of 'flexibility' in labour

markets, resulting in what Castells (2004) describes as an 'end' of stable, long-term employment. The primary reason for this, Castells (2004) argues, is that new ICTs allow companies to offshore production and outsource labour to smaller firms in different countries, especially those with different labour regulations – the result being a global economic situation in which downsizing, subcontracting, and 'flexible networking' through ICTs come to define employment. Interestingly, however, Castells goes on to assert that despite instability and flexible networking being the defining characteristics of 'informational labour', unemployment is nevertheless a non-issue in the information economy because 'no relationship exists between information technology and unemployment' (2004: 157). Castells proceeds to make a range of hyperbolic claims alongside this, notably the idea that innovation within the information economy is based upon the sharing, rather than hiding, of information at every level of organisation; Castells calls this the 'culture of innovation', which is supposedly characterised by an ethos of '[y]ou win, I shall win, and together we will win even more' (2004: 158). Such hyperbole clearly does not account for the role of proprietary economic mechanisms such as intellectual property rights in the exertion of control over information and digital content, often in order to actively prevent such sources of value from circulating for *free*.

Nevertheless, the main point to emphasise here is that Castells' conception of labour and economic production in the 'network society', whilst remarkably similar to the aforementioned schematic of Bell's post-industrial society, has served as one of the primary theoretical touchstones for macro sociological analyses of socio-economic change. Indeed, the *Information Age* trilogy (Castells, 2009, 2010a, 2010b) has led to the recognition of Manuel Castells as an authoritative commentator on nothing less than contemporary civilisation itself (Webster, 2004). As such, the outline of the main features of the 'Network Society' outlined above – though clearly rooted in the earlier sociological theory of Bell (1973) on post-industrialism – remains to this day the authoritative, mainstream account of the nexus existing between information technologies and contemporary socio-economic change. However, that is not to say that this account is *the* authoritative source one *must* turn to in order to develop an understanding of such changes; rather, it provides an initial starting point for opening up questions regarding the ways in which transformations in labour, economic production, and computing technologies have been hitherto understood within the social sciences.

### 2.1.2 — *Points of Critique: Re-opening the Marginalized Question of Capitalism*

A number of differing critiques of what has here been bracketed under the heading of the 'information society' thesis have been in development over the past decade or so. As previously mentioned, one of the most notable and well-recognised of these is found within the extensive work of British sociologist Frank Webster, for whom much of the information society literature shares a both common set of strengths – especially in the commendably ambitious, macroscopic work of Bell and Castells (see: Webster, 2005) – and drawbacks (see: Webster, 2004, 2006). Here, I want to briefly outline the more well-known points of critique before moving to discuss a specific set of points regarding the work of Bell and Castells brought to light through a lively exchange between Frank Webster (2005), Roger Burrows (2005), Steve Fuller (2005), and Nicholas Gane (2005) – published in the journal *Information, Communation & Society* – regarding the ways in which British Sociology and Cultural Studies have hitherto made sense of social change and the 'information age'. An intriguing set of problems and questions arise out of this exchange; the most notable being what Webster (2005) decries as the apparent inability of British Sociology to come up with ambitious and scoping studies of social change that blend theory with empirical evidence in the tradition supposedly upheld by that of Bell and Castells. The exchange that proceeds from this assertion of Webster's opens up what I consider to be a crucial set of questions regarding the way in which sociological analysis should proceed if it is to make sense of the nexus existing between new information technologies, digital media, and contemporary social change. Firstly, however, there are a common set of critical points regarding the information society literature that are deserved of mention.

A point of critique, emphasised most strongly by Garnham (2004), is that much of the literature pertaining to the information society supports and advocates a theory that, in the end, is technologically determined; in relation to Castells' theory of the Network Society, Garnham points out that the source of dynamic social change and what are seen as radical, epochal transformations in the structure of the economy, Politics, and Culture is a technological paradigm based upon a cluster of innovations in ICTs. Garnham (2004) goes on here to show that Castells' emphasising of 'new technological conditions' as the drivers of what he loosely refers to as a new mode of production encapsulated by the notion of an 'informational capitalist system' or 'the information age', is followed up by large epochal claims regarding the restructuring of the labour process and labour markets without unpacking these in considerable conceptual detail – one such claim being the supposed *end* of social class as both a political and structural configuration within contemporary society. Furthermore, the basic model of 'informational capitalism' offered by Castells – though

rooted in a Marxian understanding of 'modes of production', much like Bell's theory of post-industrial society – is explained by apparently new sources of productivity growth attributable to technologies of knowledge generation, information processing, and symbol communication – all of which, as Garnham (2004) explicates, are problematic insofar as they amount to conceptual homogenizations of otherwise very disparate activities, thus failing to consider the nuances of the relations between technology, the labour process, and labour market restructuring.

Perhaps one of the most well-noted shortcomings of much of the information society literature is its apparent fascination with technically describing what is considered to be a radical transformation so great that we are now living in an entirely 'new' society that can be summarised using concepts such as 'networks' (Castells, 2010a) or 'post-industrialism' (Bell, 1973). Christian Fuchs (2011), in his evaluation of the information society thesis, has referred to this as a predominance of 'discontinuous information society theories' that prefix macro-sociological categories such as society or economy, implying that we have undergone a radical transformation in the past decades that has resulted in an entirely new era of society. 'These approaches stress discontinuity, as if contemporary society had nothing in common with society as it was 100 or 150 years ago' (Fuchs, 2011: 78). The key issue that this fixation on the radically new raises for many critics of the information society is that it has resulted in a widespread form of distraction from – or ignorance of – the continuity and dynamics of capitalist structures as a key component in socio-economic and technological change. This is a key point that is further elucidated by the aforementioned exchange between Frank Webster (2005), Roger Burrows (2005), Steve Fuller (2005), and Nicholas Gane (2005).

In an article entitled 'Making Sense of the Information Age: Sociology and Cultural Studies', Frank Webster (2005) puts forward the argument that sociological and cultural studies research on information/communication technologies has consistently proved incapable of developing work of the ambition and scope to match that offered by the 'leading thinkers' Daniel Bell and Manuel Castells, primarily due to a supposed inability to match their vision and combination of empirical evidence and macro theorizations. Noting a homology between Bell's theory of post-industrial society and Francis Fukuyama's 'The End of History?' (cited in Webster, 2005), Webster advocates that Bell's account of social change is nothing short of a majorly impressive achievement due to its clarity in explaining how the driver:

> 'towards the Information Society is technology and technique, since this is what enables increased productivity on which services depend … [;] … at root Fukuyama presents much the same thesis: it is productivity that changes the world, capitalism has won out because it out-produced communism, and thus the direction of history is set' (Webster, 2005: 443).

Yet a key problem with this conclusion is that, whilst capitalism is incorporated as a conceptual component in Bell's analysis, there is very little beyond the opening pages of *The Coming of Post-Industrial Society* that attempts to deal with how to conceptually understand and make sense of capitalism *as a system*; the question of "what is capitalism and how, if at all, is it changing or remaining constant?" is for the most part absent from this seminal analysis of social change. If Bell's conception of the information, or post-industrial society is indeed an intellectually sophisticated and ambitious attempt to 'paint a big picture' of social change (Webster, 2005), then its marginal treatment of questions relating to capitalism as a changeable — or perhaps stable — social system is nothing other than an oversight. Nevertheless, for Webster (2005), the key point to be made here is that, subsequent to Bell, British Sociological research into information technologies and social change provided nothing to match the scale and scope of his work; Webster (2005) attributes this to the proliferation of Cultural Studies research into information and media technologies that has remained decidedly local, small-scale and particular.

An important point of clarification is required here regarding this supposed tendency of Cultural Studies to be parochially restricted. As demonstrated by Babe in his assessment of the tension and colloquy between Cultural Studies and Political Economy in the 1990s, — notably, that it was the rise of poststructuralist Cultural Studies that was responsible for this development of decidedly local and small-scale analyses, most of which became concerned with an interest in and celebration of difference and identity politics through consumption practises (Babe, 2009). This is an important side note to allude to here because, as shall be demonstrated in due course, a current subfield deriving in part from the Cultural Studies tradition — that concerned with 'creative labour', 'cultural work', and the 'cultural industries' (Banks, 2007; Gill and Pratt, 2008) — has, in recent years, offered up a range of useful and detailed counterpoints to the analytical frameworks and concepts developed within the Autonomous Marxist literature. Thus, despite Cultural Studies being alluded to above by Webster as at least partially responsible for the lack of British Sociological research matching

the scale and scope of Bell's analysis of 'post-industrial society', there are nonetheless some crucially important points of critique offered up from within current Cultural Studies to take on board when considering the viability of Autonomous Marxism as an antidote to the deficiencies of the 'information society' literature. I shall return to this point at the closing of this chapter.

Nevertheless, for Webster (2005) the only work noteworthy of being a successor to Bell is that of Castells, which, being distinctively ambitious in its endeavour to account for the major patterns of contemporary civilisation, is commended for also being the work of a self-described and determinedly 'empirical sociologist' who wears his theoretical clothes lightly in the form of 'disposable theory' – that is, theory being an essential *tool*, but something that can be discarded when it becomes incapable of addressing the substantive world (Castells, 2000, cited in Webster, 2005). While such a position may be commendable for its being openly flexible to major revision regarding how we understand the contours of social change, it also provides some clarity for why, in Castells' writings on the Network Society (2000, 2009, 2010a, 2010b), important theoretical concepts such as 'informational labour' and 'informational capitalism' are not unpacked or elucidated in significant detail. Indeed, although Castells employs these terms as core categories of his analytical framework, there is very little in the way of analytical exposition to supplement these notions with an in-depth understanding of what principles, for example, characterise capitalism in the 'information age' as a social system and how it is different – or indeed similar – to social systems that have preceded it. Steve Fuller (2005), in his response to Webster's advocacy of Bell and Castells as exemplary analysts of social change, also highlights a noticeable lack of conceptual exposition within their respective schematics of analysis. For Fuller, both Bell and Castells' relative richness of empirical detail is met with a seeming paucity of technical language that, whilst commendable in the eyes of some, often makes it difficult to differentiate between what is presented as fact, interpretation, or explanation – in some cases, justification or criticism[4].

A case in point can be found within the schematic of the Network Society outlined above, in which Castells (2009, 2010a, 2010b) places great emphasis upon 'informational labour' as a radical departure from previous modes of (largely stable) employment on account of its inherent flexibility becoming a way of life due to 'informational capitalism' – a term throughout Castells' writings that often appears vaguely synonymous with his notion of

[4] As an aside, attributing this, in the case of Castells, to the aforementioned preference for 'disposable theory' – rather than, for example, 'testable theory' – Fuller goes on to suggest that this is perhaps symptomatic of the extent to which academic and policy-making contexts of inquiry 'have come to be blurred so as to compromise the integrity of the former' (2005: 461).

'informational economy' – being characterised by unceasing, unending change. An additional point to highlight here is that, whilst concepts such as Castells' 'informational labour' and Bell's 'knowledge work' appear closely synonymous with one another, they are also extraordinarily multidimensional, as Webster himself demonstrates in other writings (see for example: Webster, 2004). When discussing the problematic elasticity of Castells' notion of 'informational labour', Webster observes that: '[b]y turns he emphases education, communicative skills, organisational abilities and scientific knowledge, in this way lumping together a wide range of disparate activities and capacities under one blanket designation' (2004: 116). Often, then, it seems as though Castells' notion of 'informational labour' points to little more than the observation that dispersed – or "networked" – activities require people with organisational, communicative, or management skills to co-ordinate them, or that organisations tend to be headed by people with knowledge/informational skills. As a consequence of this, the concept of informational labour is left short of analytic power due to its elasticity to include just about any group of people in informational, or service roles within what seems to me to be a suspiciously class-based concept.

Nevertheless, whilst these conceptual shortcomings in the work of Bell and Castells are important to highlight here, it is equally important to acknowledge, as Webster (2005) does, that these two thinkers have upheld the important task of addressing macro and system-level issues of social change. In this light, regardless of the seemingly marginal status of in-depth consideration for understanding capitalist dynamics and their connexion to forms labour and value-creation, Bell and Castells' work nevertheless serve as touchstone examples of sociological research that combines empirical observation with conceptual insight into complex socio-economic relations, which, in the judgement of Webster, constitutes a 'superior' form of analysis to 'studies which remain, as it were, with their intellectual blinkers fixing them on the merely particular' (Webster, 2005: 453).

In a thought provoking response to Frank Webster's condemnation of British Sociology and Cultural Studies for their analyses of 'information age' phenomena, Roger Burrows (2005) presents a case for suggesting that this ignorance – or distraction – is due to the development of a strange kind of amnesia about the functioning of capitalism within mainstream social science. Appealing to more critically orientated sociologists, Burrows presents a case to suggest that during the 1990s there was a failure on the part of mainstream Sociology 'to respond adequately to the concurrent demise of Marxist social theory and the emergence of a virulent form of informational capitalism' (Burrows, 2005: 465). A decline in this period of social theories inspired by Marxist thought led to 'capitalism' — as a core analytical category within sociology — being superseded by:

> 'a rather more mellow sounding concern for *modernities* of various sorts, with the consequence that much contemporary theorizing has come to be produced in a context in which the functioning of capitalism has sunk into the background as an *analytical given* with little or no explanatory sociological purpose' (Burrows, 2005: 466).

This relegation of capitalism into an un-interrogated background position is noticeable, not only within the information society theories outlined above – which, instead, place greater emphasis upon supposedly straightforward notions such as economy and society – but also within other areas of sociology; indeed, there has been a general tendency within cultural studies literature, as Gane puts it, to 'analyse the technical form or content of new media technologies in isolation from the general structural dynamics of capitalist culture' (2003: 430).

This sociological amnesia towards the form and functioning of capitalism in mainstream sociology is directly related to what Therborn has outlined in detail as 'post-Marxist' social commentary that, especially in the case of Manuel Castells, sets out from new management conceptions of information technology without attempting to meaningfully relate it to previous sociological theory (see: Therborn, 2010: 151-153 and 165-168). The result, which is to a lesser extent is characteristic of Bell's analysis, is a seemingly unanimous divorce from certain core principles of Marxian political economy in an effort to produce some form of 'new' empirical forays or social commentary, which, despite having a Marxist backdrop in the sense of "homage to old masters", amount to original works that are first and foremost 'contributions to social analysis rather than social theory' (Therborn, 2010: 168). Despite this silencing of the Marxian project of critique, 'capitalism' as a concept remains a crucial yet unuttered backdrop to any consideration of social theory in today's context (Burrows, 2005).

By way of conclusion, then, it seems appropriate to pose the question: what does a viable analysis of 'informational capitalism' look like, and where might it be located? (Burrows, 2005). The main theoretical challenge posed by this question – and the seeming inability of sociological accounts such as Castells' to provide the conceptual groundwork – is how, in a supposedly post-Marxist field, can one develop relatively enduring sociological insights into 'informational capitalism' within sociocultural and technological contexts that it itself generates (Burrows, 2005). For Burrows, the answer to these questions potentially lies at

the interface between Social and Cultural Geography – an area that has been most productive in generating viable and durable analyses of ICTs and their enmeshing with socio-economic processes (2005). Indeed, for Burrows it is 'perhaps a 'spatial turn' in Sociology [that] will save the sociological analysis of ICTs from the detrimental effects of its … attendant amnesia regarding the functioning of informational capitalism' (2005: 468). Here, however, I want to turn to a different body of literature that – situated for the most part outside of mainstream sociological – has come to prominence over the last decade as a major source of inspiration for radical political economic analyses of the relationships between new media, ICTs, and the dynamics of contemporary capitalism. In a final note of response to the propositions of Frank Webster regarding the work of Bell and Castells, Nicholas Gane (2005) suggests that it might be through a consideration of informational and digital technologies as both *driving* and *deriving* from the capitalist marketplace, while at the same time opening up the possibilities for an alternative arrangement, that should serve as a starting point for a radical Sociology of the 'Information Age'. Put simply, this can be read as a call for critical and (potentially) emancipatory projects of the likes found within Marxian schools of political economic thought that place concepts such as capitalism, production, labour and value at the centre of analysis. One such body of literature that has risen to prominence over the last two decades is the Autonomous Marxist movement. This area of literature has, since its inception, maintained a strong allegiance to the radical project of critiquing and theorising contemporary social change through an understanding of capitalism and its dynamical motion as a key driver of such change. As such, it provides a useful point of departure from the information society literature which, as has been demonstrated above, treats capitalism — for the most part at least — as a given and seemingly static backcloth to contemporary social, economic and technical transformations.

It is to this body of literature that I shall now turn.

## 2.2 — **A Factory Without Walls: the Autonomous Marxist Account of post-Fordist, or 'Cognitive' Capitalism**

Autonomous Marxism originated with the development of Italian 'workerism' (*Operaismo*) in the 1960s and 70s, primarily out of a desire to understand changes in the composition of the Italian 'working class', which, understandably, has resulted in this school of thought emphasising the conceptual primacy of Marx's labour and value-related categories over the commodity. This emphasis upon labour and the production of value within the Autonomous Marxist literature provides – as I intend to demonstrate – an analytical frame of reference for

theorising contemporary social change that, though not without fault, does not suffer from the aforementioned lack of conceptual exposition found within the works and intellectual lineage of Bell and Castells. Indeed, it is precisely in connexion to the lack of clarity and detailed attention given over to the concepts of labour and capitalism in the work of these sociologists that the Autonomist Marxist school of thought provides a much-needed point of reference. Moreover, such an emphasis upon understanding contemporary social change through a theory of capitalism as a systemic configuration that is characterised by processes of *labour* and *value production*, sets this school of thought apart from other important theorists of social change whose principal focus lies upon the Marxian notion of the commodity and its form, content, circulation, and consumption — points of focus emphasised in the work of, for example, Baudrillard (1998, 2005) and Lyotard (1984).

At the outset Autonomous Marxism retains a strong dedication to Marxian principles of political economic critique, most importantly of which is the desire to outline and interrogate the current state and functioning of capitalism as a social system that is both generative and reproductive of the social relations of labour and production. Important Autonomous Marxist thinkers such as Michael Hardt and Antonio Negri (2000, 2004, 2009), Maurizio Lazzarato (1996), Franco "Bifo" Berardi (2009), Carlo Vercellone (2007, 2010), Paulo Virno (2004), and Christian Marazzi (2008, 2011a, 2011b) have all dedicated themselves to critical re-readings of Marx's work in light of socio-economic transformations taking place throughout the 1970s onwards — often referred to within this area of literature as the transition to post-Fordist production and the rise of 'cognitive capitalism'. To this end, a range of sensitive and innovative analytical concepts have developed out of this body of literature, such as 'Multitude' (Hardt and Negri, 2004), 'immaterial labour' (Lazzarato, 1996), and the 'social factory' (Terranova, 2004). Interestingly, however, it is not Marx's magnum opus, *Capital* (Marx, 1983), that these thinkers have turned to in order to develop their respective accounts of the political economic order; rather, it is the arguments and concepts to be found within Marx's *Grundrisse* (1973) that have captured the attention and imagination of these thinkers. In particular, the notion of 'general intellect' found within the sections of the *Grundrisse* (Marx, 1973) on machinery has become a central analytical category for Autonomous Marxists (see for example: Negri, 1992; Lazzarato, 1996; Virno, 2007) that captures — at least in part — the changes and transformations that have taken place in labour processes and the organisation of economic production since the early 1970s. In part, this re-reading of Marx's *Grundrisse* has come about from a need, in much the same vein as Bell (1973), to more directly engage with the question of the role of technology, machinery, and knowledge in processes of socio-economic change.

In what follows, I want to provide a preliminary outline of the core arguments and concepts put forward by prominent Autonomous Marxist thinkers in order to provide a necessary backcloth to a consideration of the issues, problems, and possibilities for a research agenda on labour and the production of value within an 'informational', or 'post-Fordist' economy. The key concepts mobilised by these thinkers that provide such a backdrop are: 'immaterial labour', sometimes interchanged with 'cognitive labour', which derives directly from a protracted consideration of Marx's notion of the 'general intellect' outlined within the *Grundrisse* (1973); and the 'social factory', which, whilst closely related to the former concept, attempts to capture what is perhaps *the* most prevalent and all-pervading aspect of socio-economic change in the last few decades – that is, the propagation of economic forms of value-production out beyond the factory walls and into social life itself that has come about in tandem with the widespread diffusion of new, digital and social media. The following shall deal with these concepts and their attendant postulations regarding socio-economic change and new media technologies.

### 2.2.1 — *Immaterial Labour: or, the Reconceptualisation of What Constitutes Work*

Although the most popularly known works in this field are those of Hardt and Negri on *Empire* (2000), *Multitude* (2004), and *Commonwealth* (2009), the most in-depth and referred-to texts on the notion of immaterial labour and its relation to the general intellect are those of Carlo Vercellone (2007), Paolo Virno (2004, 2007), and Maurizio Lazzarato (1996) – the latter of these being the first to provide an explicit and detailed analytical breakdown of what this concept implies. According to Vercellone (2007), the pertinence of Marx's notion of 'general intellect' for understanding contemporary socio-economic change can be traced back to the crisis of the Fordist mode of mass production throughout the late 1960s and 70s. Since then – and this appears at first to be a homologous argument to that of Castells and Bell – capitalism has been characterised the ever more central role of knowledge, information, and the cognitive dimensions of labour. However, an important and crucial backdrop to this is that the centrality of knowledge is not "new" to capitalism, but the question remains as to what extent we are witnessing – or have witnessed – an increased role for knowledge in economic production and, more importantly, what the nature of its relationship to transformations in the capital/labour relation might be (Vercellone, 2007). Following this vein of thought, Vercellone posits the deficiency of the information and post-industrial society paradigms (he refers to these as the 'new liberal theories' of the knowledge-based economy) with the following:

> 'An understanding of the meaning at stake in the current mutation of capitalism cannot be reduced to the mere constitution of an economy founded on knowledge, but in the formation of a knowledge-based economy framed and subsumed by the laws of capital accumulation' (2007: 14).

In short, the primary emphasis for any analysis of contemporary socio-economic changes must be placed upon understanding how these are framed and subsumed by capitalist imperatives *ab initio*. As such, the notion of general intellect, though similar on a surface level to the notion of a knowledge-economy, refers more directly to a *gravitation* of knowledge and cognitive dimensions of labour towards the core of capitalist production processes than it does to some form of radically "new" and totalising system-change – the difference here, then, being the implied continuity of capitalism as *the* social system, as the framing reference point for understanding contemporary socio-economic change. The key question, for Vercellone (2007), that arises from this perspective is the *degree* to which it is possible to find, in Marx's notion of the general intellect, elements that allow for an identification of the contradictions and antagonisms that traverse the contemporary capitalist order; such a reading would thus provide an initial basis for taking both the continuities and discontinuities of the present socio-economic configuration into theoretical consideration for the purposes of *both* analytical and political thought. As a preliminary answer to this, Vercellone (2007) suggests that Marx's notion of the general intellect, along with its attendant concepts of immaterial labour and cognitive capitalism, are useful in constructing a theoretical identification of the significance of the current turning point in the *dynamics* of capitalism. For the purposes of initial clarification, André Gorz (1999) — although not directly an Autonomous Marxist thinker — provides some pithy, yet useful comments on what exactly the notion of 'general intellect' entails for an understanding of the connections between contemporary socio-economic change and the capitalist social system. For Gorz (1999), work done directly within the traditional remit of production is now merely one aspect among others of the processes we can define as *working for capital*. Now we are witnessing, according to Gorz, the insertion and application of intellectual labours of thought, consultation, information exchange, pooling of observation and knowledge, and — most importantly — the mobilisation of 'general social knowledge' as the basis for a wide range of activities that are entering into the capitalist production process as 'a direct force of production' and wealth accumulation (Gorz, 1999: 27-32). This, at heart, is an opening formulation of the link

between this Autonomous Marxist notion of general intellect (or, general *social* knowledge) and what I have referred to above as the *marginalised question of capitalism*. Indeed, to refer once again to Gorz (1999), this idea of a 'general intellect', central as it is to Autonomous Marxist interpretations of the dominant form labour power is taking on in the current configuration of capitalism, represents an ideal model formulation of post-Fordist enterprise — that is, it provides the basis for one to start thinking about what characterises 'post-Fordist *capitalism*'.

From this notion of the general intellect, many Autonomous Marxist writers arrive at the proposition that the crisis of Fordism was followed by the emergence of a post-Fordist mode of production characterised by an increasing emphasis upon knowledge, information, and a general preponderance of cognitive, or 'immaterial' dimensions of what is considered to be *a general and all-pervading* labour process – especially in relation to the rising prevalence of computing and new media – over the segmented labour of the mass-manufacture assembly line (see: Lazzarato, 1996; Marazzi, 2008; Virno, 2004, 2007). This leads to a systemic emphasis that, for many Autonomous Marxists, can best be described as 'cognitive capitalism', in which the relation of capital to labour is marked by a hegemony of knowledge – that is, *a diffuse and general intellectuality* – which in turn is manifest in the increasingly immaterial, computational, emotional and 'cognitive' character of labour (Berardi, 2009; Vercellone, 2007). Accompanying this post-Fordist shift in emphasis toward cognitive and immaterial dimensions of labour is a crisis of the 'traditional labour law of value', wherein the value of the commodity is determined by the quantity of labour-time that went into its production; from this crisis emerges a contradiction between, on the one hand, a productive process that rests primarily upon the *qualities* of knowledge, cognitive skills, and immaterial labour processes, and, on the other, a unit of measure that still coincides with the *quantity* of labour-time incorporated in the outputs of this process (Vercellone, 2007; Virno, 2004, 2007). For Autonomous Marxists such as Virno (2004), this contradiction between the post-Fordist mode of production being based upon a diffuse general intellect – that is, upon knowledge, cognitive skills, and various immaterial forms of labour – and the manner in which these are subjected to measure, constitutes nothing less than the empirical realization of Marx's "Fragment on Machines" (Marx, 1973), in which he outlines the impact immaterial forms of work and production will have upon the industrial capitalist system and the inherent contradictions that will arise from such a development.

This purported crisis of the labour law of value forms a crucial part of the Autonomist Marxist schematic of cognitive capitalism, demonstrating as it does a fundamental contradiction between the current immaterial *emphasis* of the labour process and the means through which it is subjected to quantitative measurement and valorisation as a

source of value. For writers such as Hardt and Negri (2004), Lazzarato, (1996), Negri (1999) and others, the crisis of the labour law of value and the seeming inability of capitalism to adequately impose a "new" regime of measurement upon immaterial forms of production signals a supposedly emancipatory point at which the predominant forms of production within society are "beyond value" and thus openly available to appropriation by the diffusely connected masses – or 'multitude', if one employs the rhetoric of Hardt and Negri (2000, 2004). This seemingly utopian vision of the implications of this 'crisis of the law of value' and the apparent inability of capital to impose a regime of measure upon immaterial labour provides a point of departure at which Autonomist Marxist thought becomes open to interrogation and critique. However, before proceeding to open up such a discussion in detail, I want to briefly focus in upon the hitherto under-discussed notions of immaterial labour and the social factory – both of which provide substance for firming up an understanding of the role of new and digitally interconnected information technologies in the post-Fordist machinations of cognitive capitalism. Indeed, although this Autonomous Marxist conceptualisation of the transition to what has been referred to here as cognitive capitalism retains an explicit commitment to understanding both its continuities – in terms of it being a system with a consistent commitment to the imperative of profitable production – and its dissimilarities from its antecedent form, it nonetheless must provide some form of description of the labour process that it claims has the general intellect as its base. Such a description is found within the literature dealing more precisely with the notion of 'immaterial', or 'cognitive' labour – notions which, for the most part, are treated equivocally[5].

As has been shown so far, the notion of general intellect found within the *Grundrisse* has served as a pivotal springboard for Autonomous Marxism's conceptualisation of the shift in emphasis away from mass manufacture and manual production (in short, Fordism) and towards the cognitive, immaterial properties of post-Fordist labour. The most notable and widely referenced source on the concept of 'immaterial labour' is Maurizio Lazzarato's essay published in English in 1996. Here he discusses at length what the term refers to and how it both relates and builds up to other important concepts in the Autonomist Marxist lexicon. For Lazzarato (1996), the diffusion and widespread adoption of information technologies and new media has led to a need for a reconceptualisation of what "work" is and the power relations it implies; for this he proposes the term immaterial labour as a means of expressing *both* the technical and subjective-political composition of this work. Lazzarato defines

[5] It may be of interest to point out here that more recent Autonomous Marxist-inspired writings employ the term 'cognitive labour' (see for example: Berardi, 2009), whilst the notion of 'immaterial labour' seems to have predominated in the late 1990s and early 2000s (see for example: Hardt and Negri, 2000; Lazzarato, 1996).

immaterial labour as 'the labour that produces the informational and cultural content of the commodity' (1996: 131), which, accordingly, encapsulates two different dimensions: firstly, the 'informational content of the commodity', which refers to changes taking place in workers' labour processes where skills involved in direct labour are increasingly involving cybernetics and various forms of computer control; and secondly, the 'cultural content of the commodity', which Lazzarato (1996) vaguely suggests is a series of activities that are not normally recognised as work. A key problem with such a definition is evident in the clear lack of a dedicated consideration of what, if it is to be treated as a singular form, the properties of the commodity produced through immaterial labour are. Indeed, throughout much of the Autonomous Marxist literature the importance of the commodity as an analytical concept of Marxian political economy appears to be marginalized in favour of labour and work-related concepts, which, as previously mentioned, serves as both an important point of departure from theorists whose work emphasises the former. Nevertheless, Lazzarato (1996) – in a similar vein to Virno and Vercellone – goes on to situate the start of the emergence of this type of labour in the 1970s at the crisis-point of Fordism and the emergence of post-Fordism. After this point in time, Lazzarato writes:

> [t]he old dichotomy between "mental and manual labour", or between "material labour and immaterial labour", risks failing to grasp the new nature of productive activity, which takes this separation and transforms it. The split between conception and execution, between labour and creativity, between author and audience, is simultaneously transcended within the "labour process" (1996: 132).

For Lazzarato, it is through the proliferation of ICTs and various forms of new applications of digital media that 'capitalism seeks to involve even the worker's personality and subjectivity within the production of value' (1996: 134). Berardi – although adopting the term 'cognitive labour' – provides a simple summary of this transformation of the labour process and its relation to the production of value when he states that: 'cognitive labour is essentially a labour of communication, that is to say communication *put to work*' [my own emphasis] (2009: 86). Further elaborating upon this definition, Berardi directly links this apparent transformation of the basic characteristics of labour to what he describes as the introduction of microelectronic technologies, the digitalisation of machinery and the computerisation of productive processes — all of which have facilitated what he terms the 'general intellectualisation' of labour. Importantly, and for the sake of clarity, this notion of

the 'general intellectualisation' of labour is largely equivocal with Berardi's further summation that '[i]n high tech production *cognitive* faculties are in fact put to work, and personal peculiarities seem to be valorized' [my own emphasis] (Berardi, 2009: 96). Thus, it is the foregrounding of the ways in which computerisation and new, digital, and social media technologies have centralised cognitive capacities *as* labour processes that is of paramount importance to the Autonomist Marxist accounts of immaterial labour and the general intellect.

From this it is clear that, for the Autonomous Marxists, the notion of immaterial labour is intended to signpost the ways in which capitalism has sought to take what is learned, experienced and consumed in the time of traditional non-labour time and incorporate this into cycles of value-production; this then becomes part of labour-power and thus a profitable resource that is today becoming ever-more prevalent with the profusion of new and networked media technologies that enable this process to become ever more diffuse throughout quotidian social life. However, as Virno (2007) is at pains to point out, what is at stake here is not simply just highly specialised and scientific knowledge, as Bell's post-industrial society formulation postulates; rather, the more generic attitudes of the mind come to the fore as productive resources, such as the faculty of language, the disposition to learn, memory, the capacity to relate and abstract, affective and emotional states, and the now mundane communicative capacities made possible through the functionalities of new, digital, and social media. All of these become part of an 'immaterial labour' process that, founded upon Marx's notion of the general intellect, constitutes one of *the* defining features of post-Fordist production. Indeed, for Virno, '[g]eneral intellect needs to be understood literally as intellect in general' (2007: 6); only then does the scope and ubiquity of 'immaterial labour' as a predominant configuration of production become apparent. Importantly, these notions of general intellect and immaterial labour may seem, at face value, to be equivocal to Bell's theory of the knowledge class. However, a key point of difference can be discerned in the scope of these notions. The Autonomous Marxist suggestion of a mode of production based upon general intellect does not refer to any specific class or group of knowledge or informational workers — it refers to a more *general* and, to some extent, *totalising* process whereby knowledge, information, and *communicative sociality* are subsumed into processes of capital accumulation. Thoburn (2001) provides some useful points of clarification here in his reading of Marx's 'Fragment on Machines' and the concept of general intellect contained therein. For Thoburn, the radical thesis contained within this text points to a situation wherein:

> 'it is no longer the distinct individual entities of the productive workers that are useful for capitalist production, nor even their 'work' in a conventional sense of the word, but the whole ensemble of sciences, languages, knowledges, activities, skills that circulate through society' (2001: 81).

The importance of this interpretation, when placed in juxtaposition to Bell's notion of a discrete and distinct 'knowledge class', cannot be overstated in terms of the difference it affords in conceptualising the relations and nature of capitalist production; in place of a notion of productive *spheres* of knowledge and informational work, the concepts of general intellect and immaterial labour point to a broader systemic configuration wherein the practises of *social* individuals in general emerge as work (Thoburn, 2001) — that is, the general capacity of sociality is put to work *for* capital in the creation of surplus value. It is not then, as Thoburn points out, that a pure or discrete form of scientific knowledge becomes productive, but that a whole series of capacities and knowledges are *made* productive and exploitable, signifying a process moving toward 'the greater expansion of the content of life that can count as work' (2001: 84). One cannot help but imagine the now behemothic social media platforms such as Facebook as archetypes of this process whereby *general sociality* is put to work for capital and, more specifically, subjected to processes of valorisation[6].

Nevertheless, over the last decade the Autonomous conception of 'immaterial labour' has been increasingly employed and critiqued by scholars interested in interrogating the form and expressions of contemporary political economic configurations, some of which are noticeably dedicated to understanding labour and production within the context of new, digital and social media technologies and their attendant economies (Dyer-Witheford, 1999; Terranova, 2000, 2004). Some commentators within this field suggest that the question of *labour* – a question which has become marginal at best for media and Cultural Studies when compared with questions regarding the political economy of ownership, the nature of the commodity, and cultural consumption – demands serious attention if we are going to make sense of the ways in which new media and cultural industries are intersecting in ways that place prevailing understandings of labour, production processes, and capitalist dynamics into question (Terranova, 2004). As I have pointed out thus far, the idea or notion of *a putting to work of the social* — that is, *sociality in general* — is a central theme that has underpinned the development of the concepts of 'immaterial labour'; there is, however, another contribution

[6] This putting to work of general sociality is a key a point to which I shall continuously return over the course of this investigation as it serves as one of the most important contributions of the Autonomous Marxist school of thought.

found within Autonomous Marxist literature that builds upon and unites these observations about the putting to work of everyday sociality under a single heading — the 'social factory' (Terranova, 2004).

### 2.2.3 — *The Social Factory: or, a Factory Without Walls*

A core consideration of the Autonomous Marxist formulation of immaterial labour is that it encapsulates – is perhaps predominated by – a variety of activities that combine to constitute production processes that are both organised within computerised and multimedia networks such as the internet (Lazzarato, 1996). Moreover, given their ever-increasing ubiquity in everyday social life, it is through an understanding of the operation and organisation of such multimedia networks that we must configure our understanding of cycles of production and processes of labour (Lazzarato, 1996). The prevalence of forms of immaterial production based around the application of computers, digital technologies, and collection of data – for example, audio-visual production, Internet advertising, the production and use of software, or cultural and social activities embedded within data collection platforms like Facebook or Twitter – forces, according to Lazzarato (1996), a severe questioning of classic definitions of work and workforce, or the distinction between labour and non-labour. As shall be noted in detail in the following chapter, the need for this questioning of what counts as labour versus non-labour, can be more fully appreciated in its urgency if one considers that it is not the concepts of *labour* or *work* that, considered in isolation, are problematic; rather, it derives from a discrepancy between, on the one hand, traditional understandings of the connexion between the *organisation* of labour as an expression of valorisation processes and, on the other, the emergence and proliferation of modes of value-creation are not easily captured by these traditional understandings — I am, of course referring specifically here to the 'labour theory of value' and the traditionally Fordist understanding of how labour and value were socially organised into what is often referred to as the 'wage-labour' relation (Gorz, 1999). In short, this need to question what counts as labour in contemporary society derives from a particular problem: the need to understand how and in what ways *value* is being produced, created, recognised, reproduced and extracted from modes of social life today; only after this has been interrogated can we then arrive at a more full understanding of what counts as *labour* or *work*, since, as Marx (1983) so clearly demonstrated in volume one of Capital, *value* and the configurations of its creation is the foundational starting point for a theory of labour, the commodity and capital more generally. In many respects the Autonomist Marxist

literature interrogates this question at significant length through the concept of the 'social factory' (Arvidsson, 2006; Terranova, 2004).

More recent writings in the literature on cognitive capitalism have started to use the term to emphasise the socio-economic changes ushered in with the Internet as a platform for digital interconnectivity and user-creation, which, according to Peters and Bulut, has impacted heavily upon the mode of production and nature of labour to the extent that: 'cognitive capitalism is *centred* on digital labour processes that produce digital products cheaply utilizing new information and communications technologies' [my own emphasis] (2011: xxv). The recent work of Berardi also emphasises what he refers to as 'the digital transformation' (2009: 88) when discussing contemporary changes to the labour process. For Berardi, the integration of digital technologies into the social fabric of everyday life has captured work inside the network, which is to say that 'the coordination of different labor fragments in a unique flow of information and production [is] made possible by digital infrastructures' (2009: 88). Here it becomes clear that the notions of cognitive or immaterial labour refer in most part to those forms of value-creation that are emerging around the organised application of digitally networked media, such as advertising or user-generated content. Bringing this recognition of digital technologies and their impact upon the modalities of productive labour back to the theme of general intellect in Marx's *Grundrisse*, Berardi points out that: '[t]he introduction of microelectronic technologies, the digitalization of machinery and the computerization of productive processes led rapidly to a transformation of the characteristics of labor and to its general intellectualization' (2009: 94). This focus upon digital media and computerisation as key components in immaterial/cognitive labour processes has become a core theme for many writers influenced by the Autonomist Marxist school of thought; in particular, there has been a recent explosion of literature regarding the ways in which the Internet, so-called Web 2.0, social media, and a whole host of related phenomena – often encapsulated by the term 'digital economy' – are emblematic of the socio-economic processes outlined in Autonomist Marxist thought.

The term 'digital economy' emerged in the 1990s as a way to describe the ways in which new information and digital technologies were coming to intersect with cultural industries based around media content production and distribution – a defining feature of this economic configuration being the capacities of digitized information such as its ease of copying and low costs of replication/sharing (Terranova, 2004). An obviously important component of the digital economy is the connectivity and communicative capacities brought about the rapid spread of the Internet and its various applications during the last two decades, especially social networking and so-called Web 2.0 technologies. However, as Tiziana

Terranova (2004) has demonstrated in her discussion of what she refers to as 'free labour', many of the debates that have developed around the digital economy have tended to overly focus upon the questions it poses to understandings of (intellectual) property and ownership, leading to a marginalisation of questions regarding the kinds of labour and work that produce and perpetuate it. Attempting to remedy this marginal position of questions relating to labour, Terranova (2004: 73-97) proposes the aforementioned notion of 'free labour' to describe, not only the kinds of value-creation on the Internet, but production in the cultural economy at large as an important yet largely unacknowledged source of value in 'advanced' capitalist societies.

This notion of free labour, which is directly derived from a consideration of the Autonomist notion of immaterial labour, refers to activities on the Internet that are simultaneously voluntarily given and unwaged, enjoyed and exploited, such as the building of websites, modification of software, reading and participating in discussion forums or virtual spaces, and contributing to websites based around user-created content such as YouTube or Facebook – all of which form part of a process whereby production and consumption are reconfigured into forms of labour that we do not immediately recognise as such due to their being part of a broader unfolding of a value logic that does not rely on the exploitation of formally employed labour forces. On the contrary, this value logic relies on the productive capacities of 'active consumers' whose 'knowledgeable consumption of culture is translated into excess productive activities that are pleasurably embraced and at the same time often shamelessly exploited' (Terranova, 2004: 78). In this sense, the digital economy can be understood as an important area of experimentation with value-creation out of freely-given cultural activities as mundane as chat, real-life story telling, and amateur authorship that themselves come to be productive as part of a current 'process of economic experimentation with the creation of monetary value out of knowledge/culture/affect' (Terranova, 2004: 79).

In order to make sense of the way in which production within the digital economy is based upon a form of mass consumer participation, Autonomist Marxist-inspired theorists have elaborated the notion of the 'social factory' (Lazzarato, 1996; Terranova, 2004). Because of value-creating activities such as participation in social networks or the creation and maintenance of website content, it becomes increasingly difficult to distinguish between leisure time – that is, the time of non-production – from the time when activities are put to work in the creation of value and profit – that is, labour or work time. In a sense, life becomes inseparable from work as the location of the logic of the factory – that is, *production* – is found increasingly *out in society at large*. The difficulty, then, for social theory becomes articulating as clearly as possible how '[t]he organization of the cycle of production … is not

obviously apparent to the eye, because it is not defined by the four walls of a factory' (Lazzarato, 1996: 137). In his discussion of what Autonomist Marxists refer to as the 'multitude'[7], Paolo Virno (2004) puts forward a series of theses on post-Fordism that relay this notion of the social factory in a manner that is fully importable to a consideration of the digital economy. For Virno, one of the primary characteristics of post-Fordist production is that '*every qualitative difference between labor time and non-labor time falls short*' [original emphasis] (2004: 102). This is a crucial point to consider with respect to forms of production that characterise the digital economy because, as the prevalence of consumer- or user-centric creation demonstrates, there is nothing or very little that distinguishes labour – in the value-creating sense – from the rest of human activities (Virno, 2004).

An important corollary to this dissolution of a distinction between labour and non-labour time that relates it directly to the idea of a *social* logic of production, a social factory, is found within Virno's sixth thesis on post-Fordism: 'In one way, post-Fordism is characterised by the co-existence of the most diverse productive models and, in another way, by essentially homogeneous socialization which takes place outside of the workplace' (2004: 105). It is this notion of an essentially homogeneous socialization that takes place outside of the workplace – but which is nonetheless part of the production processes of capital – that captures how the digital economy constitutes an emblematic example of the social factory thesis. Indeed, this characterisation of the contemporary mode of production provides a useful way of conceptualising how labour and value-creation within the digital economy is based upon networked mass participation and collaboration rather than a formally compartmentalised division of labour like that found within the Fordist factory. The example of the digital economy highlights how, as Peters and Bulut write, 'prosumption, co-creation and co-production of knowledge and information goods are the new norms' (2011: xxxiii). Moreover, these notions and the social processes they relate to all point toward a seemingly *social* and cooperative or collaborative (hence co-creation, co-production and the like) dimension of the value-production — that is, they point toward the socio-economic configuration described hitherto as the '*social* factory'. This notion of a 'social factory' is an important component to a Marxian theorization of the digital economy – and post-Fordist production in general – for two primary reasons. Firstly, it captures the diffuse and informal

[7] The 'multitude' (see: Hardt and Negri, 2004; Virno, 2004) is the main concept employed in the Autonomous Marxist literature to denote a notion of a social class consonant with that of Marx's conception of the Proletariat. The notion of the multitude is, for the most part, used to outline the supposed political potentialities inherent within the dispersed masses of immaterial labourers and, as such, does not necessarily constitute a *core* category of analysis with regard to an Autonomous Marxist outline of the production logic of post-Fordist capitalism more generally. It is, rather, and in keeping with Marx's methodology, a political — or politicising — concept that arises from the critique of society from the standpoint of labour and value-production.

character of much of the production of online content and other related media that rely on consumer participation, amateur enthusiasm, and formal/informal collaboration for the creation of valuable innovations. Secondly, and as Terranova (2004) points out in her initial mapping of the ways in which the digital economy can be theorised through an emphasis on labour, the concept of the social factory stands out as a contrasting alternative to the mainstream sociological notion of a privileged 'class' of 'knowledge', or 'informational' workers. Although the notion of a 'knowledge class' – like that found within the aforementioned writings of Bell (1973) or Castells (2010a) – is immediately complicated by its stubborn resistance to quantification, it is even more problematic that the acknowledgement of a shift from factory to office work, from manufacture to services, has not been followed by a degree of unanimity regarding who qualifies as a 'knowledge worker' and who does not (Terranova, 2004: 82). Indeed, an overview of the sociological literature on the 'knowledge class', most of which derives either directly or indirectly from that of Daniel Bell, quickly reveals that the notion is often used to denote a privileged, somewhat hazily conceived of demographic of scientific specialists and technical experts. For Terranova (2004), a more interesting and viable analytical move is possible if, instead of looking for a 'knowledge class' within quantifiable parameters, one concentrates instead on the concept of 'labour' and its attendant notions – one of which being the idea of post-Fordist production as a *social* factory, whereby the increasingly networked practice of everyday life itself becomes freely-given labour. Through such a focus on labour and its social configuration it becomes possible to go beyond parochial understandings emphasising the predominance of particular classes, such as the 'knowledge class', and demonstrate that it is a form of activity of every productive subject within post-Fordist societies. 'The dispersal of immaterial labour … problematizes the idea of the 'knowledge worker' as a class in the 'industrial' sense of the word. As a collective quality of the labour force, immaterial labour can be understood to pervade the social body' (Terranova, 2004: 83).

What I have attempted to demonstrate so far is that theorising post-Fordist capitalism through a focus upon labour and work demonstrates, first and foremost, the difficulty in applying any traditional understandings of these concepts to activities that are productive of value, especially if one considers the ways in which the Internet and new media industries generate wealth. Such an observation does, of course, flow directly from a recognition of how important freely-given productivity is to (new) media industries where work is in no way equivalent to employment (Terranova, 2004). Compared to the aforementioned analyses of Bell and Castells, such an interpretation of socio-economic changes brought about with the rise of information technologies and new media is far removed from assertions regarding a

predominance of *employment* in informational and knowledge-based work. The key point of departure here being that, unlike the occupation-centric analyses of Bell and Castells, the Autonomist Marxist notions of immaterial labour and the social factory allow one to move beyond an equivocation of labour with employment and consider the ways in which activities outside and beyond traditional understandings of work are being *put to work* in the production of value and wealth.

Internet-based activities such as user-creation on social networking sites, online game-world participation, and content — video, image, text, music etc. — sharing highlight how the value of innovations in the digital economy relies upon continuous, updateable work carried out by 'users' under the guise of leisurely consumption. The notion of a social factory, then, highlights above all the idea that the productive activities of Internet users' and participants in the wider digital economy can be considered as a generalizable labour process that is generative of surplus-value. As Terranova succinctly puts it, for digital entrepreneurs:

> 'the best way to keep your site visible and thriving on the Web is to turn it into a space which is not only accessed but somehow built by its users. Users keep a site alive through their labour, the cumulative hours of accessing the site (through generating advertising), writing messages, participating in conversations and sometimes making the jump to collaborators' (2004: 91).

However, it is important to acknowledge that these processes described here under the notion of the social factory are far from being confined to the structural trends of new media industries and the digital economy; rather, for the Autonomous Marxists, they are a direct and hegemonic expression of the logic of post-Fordist capitalism, characterised as it is by a diffusion of freely given labour and productivity that operates throughout the Internet, new media industries, and beyond. As Nicholas Thoburn points out in his overview of the origins of the social factory thesis in the Italian 'workersim' (*operaismo*) movement of the 1960s and 70s, the overall notion lying behind this concept was 'that the social was becoming increasingly *subordinated* to capitalist regimes of production' [original emphasis] (Thoburn, 2001: 78). Indeed, for Mario Tronti, a key figure in the early development of this idea in the 1960s, it was becoming increasingly possible to perceive the development of a vast plane of capitalised social activity — this he referred to as the 'Social Factory', in which:

> '[S]ocial relations become moments of the relations of production, and the whole society becomes an articulation of production. In short, all of society lives as a function of the factory and the factory extends its exclusive domination over all of society' (Tronti, 1962, quoted in Cleaver, 1992: 137, quoted in Thoburn, 2001: 78).

It is precisely this idea of the whole of society becoming an articulation of production — of social life in general becoming the arena not only of giving patronage to capital, but where productive assemblies of value-generation emerge and develop — that lies at the heart of much of the Autonomous Marxist school of thought. Moreover, given the relevance of such a conceptualisation to the aforementioned need to reopen and develop what I have hitherto referred to as the marginalised question of capitalism in contemporary sociology, the social factory thesis I have outlined above shall serve as a foundational starting point from which this investigation into labour, value, values in the video-games industry shall develop.

### 2.3 — **Into the Social Factory: Between Autonomous Marxism and Cultural Studies**

As has been discussed above, immaterial labour and the social factory bring some interesting points of discussion to the fore when considering the problem of conceptualising post-Fordist transformations through a focus upon work, production, and new media; more importantly, however, they are critical concepts that – contra mainstream sociological readings of a 'post-industrial' or 'network' society characterised by 'knowledge classes' – retain a sensitivity to understanding these socio-economic transformations through a direct engagement with what i have referred to as *marginalised question of capitalism*. In light of this, these notions provide a much-needed groundwork from which to begin interrogating the extent to which contemporary socio-economic changes constitute a significant departure from pre-existing logics of production, labour, and wealth creation; they allow one to begin questioning wether or not we are witnessing new and novel ways of organising social life, or simply a set of mutations in the operative logic(s) of capitalist (re)production. Rather than rely on mainstream sociological accounts grounded in a post-Marxist desire to formally describe a supposedly "new" era predominated by a class— or classes, whichever interpretation one takes – of knowledge workers, or informational labourers, the Autonomist Marxist perspective retains a sharp focus on interrogating how contemporary socio-economic developments are both continuous with the past – in the sense that they are underpinned by capitalist imperatives – and represent transformations of sorts in the social relations through which wealth is both generated and reproduced on a perpetual basis. In particular, the critical

project of Autonomous Marxism provides a much-needed means to initiate an interrogation of the political economy of new media industries and their attendant modes of production and value-creation.

However, a few points of differentiation are necessary here for the sake of both critical distance and conceptual clarity. Whilst the Autonomist Marxist notions of immaterial labour and the social factory provide an important contribution to social theory through a focus on the dispersal of work beyond the factory gate and the continued prevalence of capitalist imperatives as drivers of socio-economic change, there are some notable issues one must confront if these concepts are to be employed and made sensitive to particular avenues of analysis. This point is made especially clear when one considers how they may — or may not, whatever the case may be — adequately describe forms of work, free labour, and the production of value as they take place within the specificities of certain contexts, within certain (new) media industries (Gill and Pratt, 2008). Furthermore, the notion of immaterial labour, when considered as an operational concept, is rather ill-defined and not sharp enough to see the ways in which cultural work and free labour are *both* like and not like other forms of work (Gill and Pratt, 2008). In other words, the notion may very well tell us something about large-scale socio-economic changes regarding the contemporary character of the labour process, but it is not a sensitive concept to understanding difference and variation in the actual manifestations of this process in everyday social life. For Banks (2007), the contribution of Autonomist Marxists such as Hardt and Negri and Lazzarato can be understood in much the same way. Their conceptualisation of the immaterial labourer as being subsumed, not simply by local managerial/production interests, but by the systematic, all-pervasive notion of technically driven 'informatized' and networked social production is considered to be insufficient in addressing the diverse range of action and practices that take place on the ground (Banks, 2007). There are some important dimensions to this critique of Autonomous Marxism — which, for the most part, derives from what Gill and Pratt refer to as 'the recent 'turn to labour' in Cultural Studies' (2008: 17) — that I want to draw attention to here before clarifying the position taken up in the remainder of this investigation into labour and value-creation within the video-games industry. Moreover, what I want to demonstrate here, above all else, is that the substantive dimensions of this 'cultural critique' of Autonomous Marxism constitute a resurfacing (of sorts) of the arguments that came to the fore in the Colloquy of 1995 between representatives of Cultural Studies and Political Economy (Babe, 2009) — and that, if one is to successfully navigate an analytical position on the back of this critique, one must carefully consider the merits and pitfalls of the arguments laid bare by this dialogue between these two intellectual schools of thought. Indeed, it is

through a careful reading between political economy and cultural studies that I have arrived at the position taken up within the remainder of this investigation.

Earlier in this chapter I pointed to Webster's (2005) critique of British Sociological research into information technologies and social change and how it has been unable to match the scale and scope of information society thinkers such as Daniel Bell and Manuel Castells — something which Webster (2005) attributes to the proliferation of the Cultural Studies approach to information and media technologies, which retained a strong emphasis on small-scale uses and particular appropriations of such technologies. This criticism levelled at Cultural Studies' echoes many of the core concerns that came to the fore in the mid-1990s when a notable split developed between Cultural Studies and Political Economy, evidenced most clearly in the exchanges between two key proponents of these fields, Lawrence Grossberg (former) and Nicholas Garnham (latter) (Babe, 2009). The main points of contention that came to the fore over the course of this Colloquy between these two fields revolved around the issues of, one the one hand, (a) political economy being overly reductionist in its supposedly one-sided concentration upon economic factors that are presumed to *determine* the cultural uses and effects of media and, on the other, (b) the danger within Cultural Studies approaches of slipping into uncritical modes of interpreting culture and, more specifically, consumption through an over-emphasis on — and often unbridled celebration of — the *difference and differentiation* of cultural expressions and identities that can be found within decidedly local, particular contexts.

The latter of these two points shares a high degree of consonance with those of Webster above — that Cultural Studies' focus on the small-scale and decidedly local has led to a marginalisation within British Sociology of more macroscopic modes of inquiry into contemporary socio-economic change. As Babe points out in relation to this critique, it is not the case that Cultural Studies as a whole is responsible for this disjuncture — rather, it is has been the proliferation of poststructuralist Cultural Studies in particular, with its emphasis on hermeneutics, deconstruction, semiotics, rhetoric and a preoccupation with understanding social life as a melting pot of different expressions and identity politics (Babe, 2009). Crucially, however, such a preoccupation can, as Babe eloquently points out, 'cause one to misconstrue oppression as pluralism, persuasion as democracy, and elite control as popular freedom' (2009: 5) and it is this possibility that has left advocates of political economy sceptical of Cultural Studies research into new media and information technologies. The main issue here, then, is a fundamental disjuncture between two modes of analysis: one that emphasises — and to some extent celebrates — the *variation* of social life and, in particular, its expression through consumer cultures; and one that emphasises the need to inquire into

broader social trends, indices of inequality, and patternings of *dominance* and *subordination*. Both of these approaches — the former being that of poststructuralist Cultural Studies, the latter Political Economy — are charged with slipping into "isms" by their respective other: it is a case of *cultural difference* versus *economic determinism*.

However, Babe provides some very useful points for consideration in light of these charges levelled at these two approaches, noting in particular that claims regarding the "strict determinisms and necessities" of political economic approaches are easily overcome if one considers: 'that political economy *does* presume "soft determinisms", which means that life is *not* totally random, that there are patterns that *can* be detected, areas that *can* be researched, findings attained, and conclusions drawn' [original emphases] (2009: 108). Garnham's (1997) discussion regarding what he terms 'the political economy of culture' elucidates this position extensively, highlighting that, if we are to consider culture and its (re)production, we must also acknowledge that the capitalist mode of production has certain core structural characteristics — most importantly, that labour and exchange constitute people's necessary and unavoidable conditions of existence. In light of this, Garnham (1997) goes on to suggest that cultural studies (more specifically, poststructuralist cultural studies), with its stress on experience, the local and the everyday, has found it difficult to confront problems such as the division of labour in and surrounding the production of culture. The main point of contention that arises here for those swayed toward the concerns of political economy, then, is:

> 'how, within a capitalist social formation, one can study cultural practises and their political effectivity — the ways in which people make sense of their lives and then act in light of that understanding — without focusing attention on how the resources for cultural practise, both material and symbolic, are made available in structurally determined ways through the institutions and circuits of commodified cultural *production*, distribution, and consumption' [emphasis added] (Garnham, 1997: 72).

In a recent work entitled *Digital Labour and Karl Marx*, Fuchs (2014) points to the disappearance of Marxism from cultural studies and the intimations of a current return of Marx as a foundational resource for thinking about the interrelations between new media, information technologies, and capitalist dynamics. For Fuchs (2014), it is clear from the Colloquy between Garnham and Grossberg that something fundamentally changed in cultural studies since the times of writers such as Stuart Hall, Raymond Williams and E.P Thompson

(all of which were critically engaged with elements of Marxist thought), 'namely a profound move away from Marx, Marxism and the analysis of culture in the context of class and capitalism' (Fuchs, 2014: 60). This move away from Marxism is discussed at length by Stuart Hall (1996) in his reflections upon the development and direction of Cultural Studies, and British Cultural Studies more specifically. For Hall (1996) there are many different directions that Cultural Studies has taken and it is clear that there have been many intellectual splinterings; however, of significance here is what Hall describes as the development of British Cultural Studies in the 1970s within the problematic of Marxism and Marxist critique, a problematic that, in the 1990s, became less prevalent as a theoretical framing device for problematising social life. By way of example, hegemony — a concept derived from the works of Italian Marxist Antonio Gramsci — played a key role in Cultural Studies over the course of the 1970s and 1980s, especially in the works of Hall (Thoburn, 2007). However, as Thoburn (2007) has clearly demonstrated, there has been a marked decline in the perceived utility of the theoretical frameworks that lie at the heart of the hegemony thesis and its conception of the social and modes of domination.

As such, the discrepancy between critical political economy and poststructuralist cultural studies that the above outlines leads one to consider how one might go about navigating some form of middle ground — one that incorporates a concern for the ways in which both the *culturally particular* and the *systemically capitalist* can be placed into relational dialogue with one another and understood in terms that emphasise the need for critiquing current modes of production *in* — and the reproduction *of* — social life. As I have pointed out above, the Autonomous Marxist school of thought has provided some particularly interesting conceptual formations and considerations that — at the very least — constitute considerable food for thought regarding the *systemically capitalist* aspects of contemporary socio-economic change and what expressions these might find in everyday social life (transformations in what constitutes work/labour, the valorisation of everyday sociality and so on). Their focus upon (immaterial) labour and the social factory, I have argued, provides a much-needed groundwork to consider processes of production, labour, and their enmeshing with new media technologies within an overall framework for understanding capitalist dynamics; as for the possibility of understanding the culturally particular in tandem with this, there is considerable debate about the compatibility of these positions if one is to turn to cultural studies as a key resource. As Fuchs suggests, the question of *labour* remains a perennial blindspot in cultural studies (Mosco, 2011, cited in Fuchs, 2014).

However, in the last decade or so there has been a noticeable burgeoning of literature that, though not entirely couched within cultural studies traditions, does indeed constitute

what Gill and Pratt (2008) refer to as a recent 'turn to labour' in cultural studies. Put somewhat generally, this area of literature has coalesced around a desire to interrogate the modalities and processes of production within specific 'creative industry' contexts — sometimes referred to as 'cultural industries' (Beck, 2003; Hesmondhalgh, 2002) — such as the music (Banks, 2007), fashion (McRobbie, 1998, 1999; Neff, Wissinger and Zukin, 2005), film (Kong, 2005), and, increasingly, the video-games industry (see: Deuze, 2007: 201-232). Importantly, however, within this literature there is an explicit engagement with the Autonomous Marxist literature as a body of social theory from which to draw inspiration for the analysis and problematisation of 'cultural work' and production within the 'creative industries' (Gill and Pratt, 2008; Hamilton and Heflin, 2011). Acknowledging the distinct lack of a consideration for labour and the production process in cultural studies of media, Banks (2007) equally acknowledges that this charge can be equally applied to certain strains of critical theory, noting that there has been a considerable 'lack of attention paid to social relations of production in post-Adornian cultural and media studies' (Banks, 2007: 27), in which the commodity figures as the primary unit of analysis[8]. From here Banks (2007) goes on to suggest that the works of Autonomist Marxist thinkers such as Negri and Lazzarato — whilst providing a very important contribution through a focus upon the concepts of labour and production as useful starting points to interrogate cultural work — tend to remain overly-focused upon macro-level accounts of broad trends in which corporations and capital exert their will upon a seemingly homogenised population of social actors.

With regards to the concept 'immaterial labour', Gill and Pratt (2008) indicate a number of ways in which — as an analytical device — it is perhaps a little too broad and ill-defined, suggesting that while it may be true that most work today is in some sense impacted by information and communications, the grandiosity of such claims obscures potentially profound differences between different groups of actors and activities that we may — or may not — want to consider as labour or labourers of some form or another. Whilst these points of critique are of some import, they are not stated here as a justification to turn to the micro-level of everyday practises and particular contexts in favour of an understanding of the kinds of broad trends Autonomous Marxism provides insight into; rather, it seems more reasonable given the above discussion to consider in what ways one might be able to find *fruitful* avenues of dialogue between Autonomous Marxism and literature on cultural work. Indeed, as Gill and Pratt explicitly commend: 'In the context of the silence from most scholars about

[8] This is a point of departure that I shall discuss at greater length in the following chapter where I shall discuss the implications of taking either labour or the commodity as the starting point of analysis.

cultural labour, autonomist thinking and activism makes a major contribution in focusing on the role of work in capitalism' (2008: 20).

Clearly, then, there is a current dialogue taking place between this work-centred strain of cultural studies and political economy as it is found within the Autonomous Marxist tradition. This dialogue and its potential for opening up fruitful avenues for analysing post-Fordist labour and production processes is highlighted by Gill and Pratt (2008) through the concept of 'temporality', which, whilst ringing with core aspects of the Autonomist's social factory thesis — i.e. the 'takeover of life by work' (Gill and Pratt, 2008: 17) — it also resonates with research findings on the working hours and routines of cultural labour. Through the concept of temporality, Gill and Pratt (2008) argue that it becomes a real possibility to interrogate how and in what ways life is becoming governed by work, especially if one considers how this may operate on the level of time by evaporating everyday distinctions between work and leisure, production and consumption — in short, it becomes a real possibility to study the temporalities and timings of the social relations and processes of production that point toward the takeover of life by work, to the notion and possibility that we are indeed in a social factory. For Gill and Pratt (2008), the claim of a blurring — or perhaps, elision — of work and non-work time is a key feature of the Autonomous Marxist account of life under post-Fordist capitalism that can be intuited on the ground level of experience and cultural practise. Pointing to the example of the 'participation economy of Web 2.0', Gill and Pratt (2008) invoke Terranova's (2004) aforementioned notion of 'free labour' as indicative of the ways in which temporalities of social life previously understood as 'free time' — that is, the Fordist demarcation of work and non-work, productive and non-productive time — are becoming harnessed by capital as 'people produce and upload content for Facebook, Bebo and Youtube, modify games for giant multinational corporations and leave data trails that are 'informational gold mines' on Google and Safari' (Gill and Pratt, 2008: 17). The concept of temporality in this sense is useful — if you will — for *scoping into the social factory* to see what is going on "inside"; in what ways is productive activity being (re)configured in terms of its *times* and *timings* within the patternings of social life in general. Such a consideration, however, is not absent from the preoccupations of Marxian political economy; indeed, as I intend to elucidate in the following chapter, there are many facets to Marx's (1977, 1983) works that place time and temporality at the epicentre of analysis, not least his analytical formulation of the relations between labour and value, absolute and relative surplus value, the working day, and the quantitative and qualitative dimensions of value — all of which serves to demonstrate the temporal nature of Marx's core categories of political economic critique..

Thus, in a similar same vein to Gill and Pratt (2008), I would like to emphasise that the Autonomous Marxist concepts outlined above highlight important issues regarding the organization, diffusion, and character of labour, value and contemporary capitalist production that have not been high on the sociological register in recent years – in this sense, Autonomous Marxism does the important job of re-instating what I have referred to above as the marginalised question of capitalism. However, equally important is a recognition that, in order to understand the processes and practices that characterise the notion of a social factory, one must not only consider the ways in which this is a generally applicable notion, but also the ways in which specific social relations, negotiations, and calculations on the ground can be weighed against the thrust of this thesis. This may involve, as Gill and Pratt (2008) suggest, asking not only if such socio-economic relations and practises are straightforwardly exploitative or oppressive, but how pleasure, affect, and playful engagement may bind us to such practices. In the case of the new media industries and their attendant modalities of production, this must entail a close analysis of both the specificities *and* generalities operating throughout. To understand and address issues relating to the 'social factory logic' of new media industries it is necessary to both scope in on particular formations — such as, in the case of this investigation, the video-games industry — whilst also retaining a central concern for how the modalities of production and value-creation within such organisations can be understood as part of a broader picture of socio-economic change.

The purpose here in dedicating considerable effort to a delineation and juxtaposition of the Autonomist Marxist school of thought against (a) other macroscopic perspectives on the character of contemporary socio-economic change and (b) the 'cultural critique' from the standpoint of labour, has been to prepare for a *focused* investigation into *specific* facets of *a particular* new media industry – that is, *labour, value and valorisation in the video-games industry* – with the primary purpose of relating these back to the broader level of investigating social life under post-Fordist capitalism. The aim here, then, has been to provide the theoretical backdrop required for such a focused, yet broadly aspiring investigation. What I want to suggest, however, is not a turn to one perspective or the other — i.e. not a straightforward adoption of Autonomist Marxist concepts as they stand, or a turn toward the culturally particular as the start and end point of analysis — but to use these points of negotiation as a starting platform for exploring the core categories of political economy and their potential for making sense of the broad *patternings* of socio-economic change and the ways in which such developments are *expressed* in certain spheres of social life. With regard to the former, the social factory thesis is highly thought-provoking and, as scholars such as Terranova (2004) have shown, is considerably intuitive as a means for thinking through the relationships

between capitalist dynamics and new media phenomenon like the Internet, Web 2.0 or the digital economy.

As a final note, one may ask in light of the above wether the notion of a social factory is adequate on its own terms, or if it might be desirable to open up its attendant proposition — that is, the whole of society becoming an articulation of capitalist production, the *social* being the subject of capital's modes of appropriation — to a consideration of other categories of Marxian political economy. In other words, which concepts and theoretical formations in Marx's analytical schematic may be interrogated *in conjunction* with the social factory thesis to sharpen its analytical import and investigative capacity as a category of political economic critique? Of course, as I have attempted to demonstrate throughout the course of this chapter, the Autonomous Marxist school of thought places the concept of labour and its connexion to forms of (surplus-)value generation at the centre of consideration when outlining the contours of socio-economic relations that appear to constitute a takeover of life by work, the formation of a social factory, wherein the whole of society becomes and articulation of production. Gill and Pratt's suggestion of focusing upon the themes of temporality and timing provides a thought provoking supplement to such observations as a means to begin investigating what is happening within particular industries and making sense of the ways in which work is, or is not, subject to regimentation and temporal compartmentalisation.. However, as I intend to demonstrate, questions regarding temporality and *temporalities* are intricately connected, within Marxian literature, to the concepts of labour and value as core categories of political economic analysis; indeed, even a brief overview of previous and prevailing Marxian literature reveals the importance of time and temporality to discussions about the labour process (see: Marazzi, 2011b: 17-67; Marx, 1983: 173-212), the working day (see: Marx, 1983: 222-226; Gorz, 1999: 27-55), the forms and rate of surplus-value (see: Marx, 1983: 173-531), and what is often referred to as the 'labour law of value' (see for example: Morini and Fumagalli, 2010; Vercellone, 2010). .

Nevertheless, despite value and temporality being important explanatory concepts in Autonomist Marxist analyses — especially in the case of the social factory thesis, where the time of work versus non-work and the production of value across all spheres of social life are a paramount concern — there has been considerably more effort expended on the part of critics of this school of thought toward the suggested changes in the qualitative dimensions of the *labour process* as prevailingly immaterial or cognitive in nature. This preoccupation with one aspect of the overall contribution of the Autonomous Marxist literature is prevalent throughout the aforementioned work that Gill and Pratt (2008) refer to as the 'cultural turn to labour' and within the writings of critics such as Camfield (2007) and

Wittel (2004). Within this literature, the central criticism levelled at the contributions of the Autonomous Marxist school of thought revolves around the apparent imprecision and apparent haziness of 'immaterial labour' as a concept for describing changes in contemporary labour processes. However, as I have attempted to demonstrate throughout the latter part of this chapter, immaterial labour is one conceptual facet of a complex and constantly developing set of arguments and discussions both within and in dialogue with Autonomous Marxist literature. This is most clear in the ways that consideration given to the concept of labour in Autonomous Marxist literature — notably Vercellone (2010) and Fumagalli (2011), among others — is often framed in close connexion with value, surplus-value and (social) forms of production. One example of such interconnections between the core concepts at work in Autonomous Marxist literature is the contention that immaterial and cognitive dimensions of labour in post-Fordist capitalism are in direct contradiction with the quantified measure of labour-time; this perceived contradiction is then often used as a basis for claiming that capital is not capable of "capturing" emergent forms of production as potential sources of (surplus-)value, and that this has led to a crisis of the *labour* law of value and a return of rent (Vercellone, 2010) — a scenario sometimes described as an incommensurability (Marazzi, 2011b) between capital's logics of appropriation and the kinds of networked production that have emerged in tandem with new, digital, and social media[9]. As such, it seems important to highlight here that claims regarding the insufficiency of concepts such as 'immaterial labour', while valid on their own terms (i.e. as positing a need for more detailed and fine-tuned analyses of production processes on the ground) are of little import to the overall framework of concepts and considerations offered up by Autonomous Marxist literature. This is particularly evident when one takes into account the significance of the *connexions* between the concepts of labour, (surplus)value and work/non-work time that the social factory thesis draws together.

Attempts to distance analysis away from a consideration of the relations of labour *to* value production in post-Fordist capitalism have levelled similar criticisms at the Autonomous Marxist school of thought. For example, Arvidsson (2009) claims in his attempt to formulate a 'post-capitalist theory of value' through an analysis of 'social production'[10], that the

[9] This is an important area of discussion that I shall return to in the following chapter when discussing the implications of retaining a close connexion between the concepts of labour and value when attempting to make sense of capitalism today.

[10] This term has become a widely-used means of describing the ways in which the production of (predominantly user-generated) 'immaterial wealth' is becoming strategically central — through the increasing mediatisation of the social — to both short-term profits and long-term economic strategies (Arvidsson, 2009).

question of value and its logic is noticeably marginal in the accounts of most Autonomous Marxist observers, primarily because it is assumed that:

> 'value must, per definition, be connected to (some form of) investment of labour time. Since this 'labour theory of value' hardly applies to social production, in which labour power is for all means and purposes abundant and hence without value' (Arvidsson, 2009: 15).

For the most part, according to Arvidsson (2009), the question of value and its logic within post-Fordist capitalism is not considered to be an *open question* requiring explanation or possible exploration. Instead, Arvidsson claims, the concept of labour and its expression in immaterial and cognitive forms is particularly privileged as an explanatory device for elucidating the core features of post-Fordist capitalism, and, as I have shown, this contention is also the subject of much critique and criticism (Gill an Pratt, 2008). However, as I am at pains to point out here, there are a number of important Autonomous Marxist contributors and concepts that are grappling with this very problem — that is, the changing nature of, and relations *between,* labour and value production and the implications of this for a systematic understanding of the socio-economic condition we find ourselves in today (see especially: Fumagalli, 2011; Morini and Fumagalli, 2011; Vercellone, 2010). At present, the argument I am attempting to put forward here is that — whilst it is important to acknowledge the limitations of the various aspects of Autonomous Marxist thought outlined above, especially with regards to the need for focused analyses and a sensitivity to specific conditions and circumstances — this area of literature still remains one of (if not *the*) most important contributions that addresses what I referred to earlier as the marginalised question of capitalism in sociological literature. Moreover, the import of the social factory thesis cannot be understated as it provides an important convergence point for making sense of not only changes in labour processes and the dissolution of the dichotomy between work and non-work time, but also changes in the ways in which we can make sense of *labour as a value-generating process* and *the production of value as a hallmark of labour* — in other words, the notion of a social factory entails a dedication to understanding both changes in what constitutes labour and changes in the way that (surplus-)value is generated, maintained, and intensified *as parts of the same analytical framework* for making sense of capitalism today.

But what would an in-depth consideration of the concepts of labour and (surplus-)value provide as the foundations from which to orientate an analysis of the video-games industry?? In order to shed some light on this possibility, I shall return to the beginning — to Marx's theory of labour and (surplus-)value — and proceed through the works of a number of eminent Autonomous Marxist-inspired scholars with the aim of exploring the possibilities for *supplementing* the social factory thesis outlined thus far; through such an exploration one may be able to elucidate — among other things — some of the ways in which the video-games industry is (or is not — whatever the case may be) emblematic of the developments and machinations described above as a social factory, wherein work and non-work time is elided, where everyday sociality and mundane activities become articulations of production and value-creation.

# 3. Into the Social Factory: Labour, Value and the Sociality of Production

In this chapter I want to provide a three-part outline of the conceptual framework that underpins and informs this investigation into the video-games industry. For the most part, this shall entail an extension and finer-grained unpacking of the themes and concepts developed within the previous chapter – most notably those of what constitutes labour and value creation/appropriation today, and the notion that processes of production are increasingly taking the form of a seemingly ubiquitous 'social factory' that pervades all social life, rendering previous understandings of the division between work and non-work problematic. However, the task here is not a simple case of a need to recount those concepts and issues; rather, it is to focus in on a specific set of arguments and problems that have emerged directly from a need to: (a) understand and make sense of contemporary capitalism and capitalistic processes, and (b) given the wealth of scholarship on this topic in Marxian and Marx-inspired literature, consider how this can be effectively mobilised to make sense of the ways in which labour and value-creation/appropriation are configured (and periodically re-configured) as core elements of capitalistic production. The previous chapter has pointed to two main concerns regarding these needs: firstly, an apparent marginalisation of questions regarding capitalism in sociological literature on macro socio-economic change; and secondly, the importance of contributions from the Autonomous Marxist tradition for keeping questions regarding capitalism and changes in capitalistic processes clearly in view. More specifically, I have pointed to the pertinence and potential of a constellation of concepts that seek to address changes that have — and are — taking place with regards to processes of capitalistic production and accumulation, especially within what is referred to as the 'digital', or 'new' economy; the foremost of these concepts being 'immaterial labour', the 'general intellect' and the notion that all social life is becoming an articulation of the logic of the factory (the social factory). In order to further unpack these concepts for the purposes of operationalising this investigation into the video-games industry, this chapter shall return to the writings of Marx on labour and value and work forwards towards a discussion of a particular set of conceptual devices and problems preeminent within the current writings of scholars working within — and in dialogue with — Autonomous Marxism. As such, this chapter is divided into three key sections that shall highlight and discuss the importance of the relational connexion between labour and value, which, as shall be demonstrated in due course, is central to further elucidating the notion that all social life is, or is becoming, an articulation of production — a configuration of capitalistic value-production and appropriation. In short, this chapter is an attempt to delve further into the complexity of

relations, processes and changes that have given rise to the idea that contemporary capitalism is characterised by a *social* factory logic. To this end, Marx's labour theory of value shall be discussed as a starting point for considering what may, or may not, appear on the surface as activities and processes that are being put to work *by* and *for* capital — for asking "what, in light of the social factory thesis, counts as *labour*?".

The first section of this chapter is dedicated to a discussion of Marx's formulation of the relationship between labour and value *in general*, with a particular emphasis on highlighting what some scholars have pointed to as a distinction within Marx's writing between the quantitative and qualitative dimensions of labour and value. This is a preoccupation that has been taken up by a number of theorists and scholars from various generations and schools of Marxian literature; in particular, the writings of Isaak Rubin, whose main work *Essays on Marx's Theory of Value* (2010), first published in 1924, was concerned with elucidating what he considered in his time to be a fundamentally misunderstood component of Marx's analysis of capitalism — that is, the qualitative dimensions of Marx's formulation of the relations between labour, value and the commodity. Another thinker who has attempted to highlight the importance of this aspect of Marx's work is Moishe Postone (2003) who, akin to the Autonomous Marxist school of thought, turns to a reading of the *Grundrisse* in order to demonstrate that Marx's framework for understanding both the quantitative and qualitative dimensions of capitalistic production constitutes, in the first and last instance, a *social analysis of production*. Although there a number of directions one can pursue from these considerations — particularly with regard to centrality of commodity fetishism (see Rubin, 2010: 5-60), the mystification of relations of production, and value as a mediating force *over* the social (Postone, 2003) — the emphasis in this section shall be upon the importance Marx and Marxian analyses of production place upon the relationship between social relations, and abstractions about such social relations. Emphasising this element of Marx's labour theory of value paves the way to a discussion of two fundamental concepts contained within the subsequent sections of this chapter: Marx's theory of absolute and relative surplus-value; and, following this, cooperation as the qualitative social relation that forms the basis of value and production *in general*. It is important to note at this early point that the purpose of these discussions is to gravitate back toward the Autonomous Marxist literature on the social factory and, more specifically, a particular set of arguments revolving around the notions of 'sympathetic cooperation' (Terranova, 2014), biopolitical production (Hardt and Negri, 2000; Mornini and Fumagalli, 2010; Terranova, 2009, 2014), and the proposed incommensurability of social production (Marazzi, 2011b; Vercellone, 2010). The overall objective in pointing to these notions and their attendant discussions is, put simply, to pave the way for a

consideration of the *sociality of production* as the foundational basis upon which the emerging social factory logic of labour and value-creation/accumulation is becoming established, alongside the contradictions and problems encountered when one considers the following: how is *(qualitative)* sociality subjected to *(quantified)* capitalistic valorisation?

Of central importance the first section of this chapter is a two-fold discussion that starts with the relation between 'concrete labour' and 'abstract labour', and then moves to a particular aspect of Marx's labour theory of value that carries his analysis forward to a *political* critique of capitalist exploitation: this is, Marx's theory of surplus-value (Marx, 1983). As shall be demonstrated in due course, Marx's theory of absolute and relative surplus-value draws together the quantitative and qualitative dimensions of his framework to form an analysis of how and in what ways labour (the qualitative capacities of labourers as a value positing activity) is subjected to quantified means and methods for analysing and *increasing* productivity. In light of this, I want to turn attention in the second section of this chapter to how the concept of surplus-value plays a central role in understanding the ways in which profit and capital accumulation are sought out through strategies founded upon quantifiable measurements of — that is, abstractions about — the productive capacities of working populations (what Marx refers to as 'labour power'). In Marx's (1983) own writings on surplus-value, these strategies and measurements are understood primarily through the concepts of *time* (time and duration of the working day) and *productivity* (of labour). Nevertheless, the overall aim in discussing surplus-value and its attendant concepts in this section is to highlight a core underlying theme of this project: the problem of profit and the adaptability of capital — what Hardt and Negri (2000), in their discussion of surplus-value, refer to as the barriers that define the capitalist production process and the ways in which these are adapted to and overcome. The purpose of this section, then, is to highlight and demonstrate the centrality of Marx's formulation of absolute and relative surplus value as an element of his analysis of capitalism that draws together the qualitative and quantitative dimensions of production into a framework for understanding the ways in which the former is subjected to the latter through an adaptive process that is underpinned by the *problem*, or need, of profit — of generating surplus.

The second section of this chapter shall then move to discuss the themes highlighted in sections one and two in a contemporary context through a reading of recent bodies of literature that are focused upon the problem of understanding current socio-economic changes to production, labour, and value-creation processes that have developed in tandem with the proliferation and adoption of digital/new media technologies into various spheres of everyday social life. The first of these areas of literature to be discussed coalesces around

what is often referred to as 'liberal theories of social production' (see for example: Benkler, 2006; Leadbeater, 2009), much of which has opened up important questions regarding the ways in which user-creativity and production undertaken through digital networks is challenging, or at least subverting, traditional monetary and commercial market models. The overall aim in providing an outline of this area of literature is to point toward the seemingly celebratory and emancipatory conclusions that thinkers such as Benkler (2006) and Leadbeater (2009) arrive at when considering how social and digital networking will affect socio-economic change. As such, my aim is to point to this area of literature as an important stepping stone for making sense of the centrality of *sociality* to processes of production and creativity within digital networks, whilst, at the same time, remaining critical of perspectives that suggest we can make sense of this *sociality* of production as the emancipatory power of new markets founded upon socially produced goods and innovations (Benkler, 2006; Leadbeater, 2009). Such perspectives suggest that socially produced goods — by virtue of their status as open and freely available resources — are without any traditional form of market value and that, therefore, the question of value is of little import to understanding new and emerging forms of social production (for an overview of this point see: Arvidsson, 2009: 14-17).

Thus, following on from this I shall then move to discuss a constellation of concepts more directly associated with the social factory thesis that attempt to unpack and elucidate the unfolding logic of social production as a direct mutation — or adaptation — of capitalistic valorisation processes. Drawing upon the works and readings of Autonomous Marxist thinkers such as Lazzarato (2008; 2012), Morini and Fumagalli (2010), and Terranova (2014), the concept of sympathetic cooperation and the constituent powers of sociality in economic valorisation processes shall be pointed toward as a foundational counterpoint to the aforementioned 'liberal theories of social production'; a foundational counterpoint that shifts the focus of attention directly onto the relations between capitalist processes of expropriation and the incorporation of a generalised form of social labour into cycles and circuits of production and value-creation. In short, the concept of sympathetic cooperation and the focus of the above Autonomous Marxist thinkers on the centrality of the social to current socio-economic developments, brings the overall trajectory of this chapter and its preoccupation with delineating the relations between the qualitative and quantitative dimensions of production back to a focus upon the social factory thesis, albeit with a renewed emphasis on the *social* as the focal point of capitalistic valorisation processes.

Of particular importance at this point in the chapter is the way in which a focus upon the social — of sociality in general — as a foundational source of value and valorisation can

be tied directly to a consideration of the adaptability of capitalistic processes and the ways in which this is underpinned by what I have hitherto only briefly referred to as the 'problem of profit'[11]. In other words, such a focus opens up a line of investigation that is distinctly lacking within the literature pertaining to liberal theories of social production: that is, capital's *means* and *methods* of attempting to capture the productive and creative power of shared sociality. This final point has been put to discussion by numerous authors preoccupied with making sense of recent socio-economic change through a focus upon capitalism and capitalistic processes. Framed as the problem of the *incommensurability* of the social authors such as Marazzi (2008, 2011), Gorz (1999), and Morini and Fumagalli (2010) have pointed toward two interrelated developments: firstly, what has been described as the 'crisis of the (labour) law of value' (Vercellone, 2011) and a general decline in waged-labour (*labour-time*) as the hegemonic expression of the *temporal* social relations of production under post-Fordist capitalism (Gorz, 1999; Marazzi, 2008); and secondly, the proposed "problem" of subjecting the sociality of production to capitalistic valorisation (Marazzi, 2011) — that is, the issue of quantifying the qualitative social relations, beliefs and values that, referring back to the aforementioned theory of sympathetic cooperation (Lazzarato, 2012; Terranova, 2014), constitute a foundational element in processes of capitalist valorisation. The latter of these two issues — alongside the more general issue of understanding emerging value-creation processes today — has become a central preoccupation of recent sociological writings that, although not unified around an explicit concern for making sense of contemporary capitalist production, have highlighted the need for empirical lines of inquiry into issues coalescing around the conceptual importance of value (Böhm and Land, 2012; Ruckenstein, 2011). This is particularly the case with regard to the themes of *measurement* (Verran, 2012), *metricization* (De Angelis and Harvie, 2009; Kelly and Burrows, 2012), and the complex interrelations between capital's 'value logic' and *values* (Skeggs, 2014).

The overall set of considerations to emerge from the discussions contained within this chapter coalesce around a set of problems that the case study of this thesis seeks to investigate. The core issue that emerges from the considerations of this and the previous chapter is that of the 'problem of profit' — that is, how and in what ways profit is sought — and the ways in which this has framed the socio-economic developments and changes in capitalistic dynamics that are evident today in the ways that, by way of example, new, digital and social media industries' commercial logics operate to attain value from freely given user-

[11] This notion shall be expanded upon and further developed throughout the course of this chapter and, particularly, chapter five, throughout which it serves as a central framing device for discussing case study data on the values and narratives of video-game developers' views on how the industry should generate profits from player-populations.

creativity and contributions. In the context of the analysis developed in this chapter, this overarching question of how profit is sought resolves itself into two specific questions, with the former emerging out of the discussions contained within section one, and the latter deriving from section two. These questions are: (i) how is (qualitative) sociality subjected to (quantified) capitalistic valorisation?; and, (ii) can capital capture the value of sociality in general and, regardless of outcome, how will this be attempted? The first of these questions is centred around a consideration of what, in Marx's writings, can be summarised as the relations between the qualitative and quantitative dimensions of production (Rubin, 2010) and, furthermore, the ways in which the former is accounted for and translated into economic value. Following on from this, the second of these questions is framed around a more direct consideration of the aforementioned problem of the incommensurability of sociality and, more generally, how capitalistic valorisation processes adapt and change over time; ultimately, this directs the overall trajectory of this chapter back to the social factory thesis as *a theory of the adaptability of capitalistic valorisation processes*.

In the final section of this chapter I shall provide an outline of the agenda and aims of the following investigation into the video-games industry. From here, I shall draw together the theory and considerations outlined up to this point into a formulation of the core set of research questions that underpin this investigation into the political economy of the video-games industry. Furthermore, this section shall outline the concrete aims and methodological approaches adopted in order to construct a case study with the overall objective of investigating the history, development and current transformations of the video-games industry's commercial valorisation processes. To achieve this a further refining of the core theoretical research questions arrived at in the second section shall be undertaken, followed by a an overview and clarification of the direction and explicit purpose of the investigation both theoretically, and empirically. At this juncture I shall also provide important details on the research process, the collection and types of data consulted, and the ways in which these were interrogated and put to use in an attempt to begin moving toward a critique of the political economy of one of the twenty-first century's fastest growing and most profitable new media entertainment industries.

## 3.1 — **Labour and Value in General: Marx's Formulation of the Qualitative and Quantitative Dimensions of Production**

It is particularly revealing that Marx's analysis of labour *begins* with a multidimensional theory of value, with the most widely-known discussion of this being chapter one of *Capital* (volume one) where Marx details his schematic overview of the underlying relations between the dimensions of value and the labour embodied within commodities (see: Marx, 1983: 43-88). Drawing upon this initial formulation found within *Capital* and key passages within the *Grundrisse*, the following shall discuss the social relations of production and the role of abstractions about such social relations in the organisation and *transformation* of what Marx refers to as 'labour as capacity' into 'labour as a value-positing activity' (Marx, 1973: 272-274). The passages within the *Grundrisse* that are of import to this discussion are those pertaining to the concept of 'labour power' and its modification into a 'value-positing activity' (see Marx, 1973: 272-274, 282-283 and 293-294). Overall, what I want to demonstrate with the following is that this core *element* of Marx's theory of the qualitative and quantitative relations between labour and value provides a foundational springboard for considering and further elaborating upon the machinations and underpinnings of the social factory logic *as a complex of contemporary capitalistic processes wherein aspects of everyday social life are — and are becoming — valorised*. More specifically, I want to draw attention to a particular set of relations between the quantitive and qualitative dimensions of production, whilst at the same time draw attention away from a particular set of interpretations that have emerged out of Marx's theory of value regarding the value-form, the centrality of commodity fetishism (Rubin, 2010), and value as a form of social mediation (Postone, 2003, 2004) — to this end, the following shall discuss elements of these interpretations, primarily due to their focus upon the distinction between the quantitative and qualitative dimensions of value in Marx's writings. Nevertheless, I want to stress at this juncture that my aim in what follows is not to outline and adopt a novel or metaphysical theory of value as a mediating force over the social. Rather, my aim is simply to highlight that contained within Marx's work is a nuanced and fruitful distinction between the social relations of working life and the systems of abstractions about such social relations that constitute a core element of capitalistic valorisation processes.

As such, I do not intend on putting forth any form of exegetical analysis of my own on Marx's work. Instead, I shall begin with some of the most well-known aspects of Marx's writings on production, labour, and value before moving to discuss a particular set of points outlined by writers such as Isaak Rubin (2010) and Moishe Postone (2003) regarding the importance of understanding Marx's work as a 'social analysis of production' focused upon the social relations that underpin capitalistic production processes. Alongside this, I shall

endeavour as far as possible to signpost points of departure where these further develop their readings of Marx's social analysis into theoretical discussions regarding commodity fetishism and value as a social mediation force. This is an avenue of analysis that I do not intend to follow beyond the discussion here of Marx's formulation of the quantitative and qualitative dimensions of production as it inevitability leads to a need to address questions regarding reification, embodiment, mystification and the metaphysical nature of value as a social force in its own right. What I am intending to achieve here is much less concerned with processes of mystification that can be gleaned from a reading of Marx's discussions on exchange value and commodity fetishism — much of which has been a preoccupation within Frankfurt School writings such as Adorno's essay *On the Fetish Character in Music and the Regression of Listening* (Adorno, 1998), and the discussion of the fetish character of the commodity and alienation found within Adorno's *The Culture Industry* (Adorno, 2001: 38-39) — and more concerned with outlining how Marx's conception of production is founded upon an understanding of the ways in which the qualitative capacities and co-operative social relations of labour are operationalised as a source of value.

### 3.1.1 — *Concrete and Abstract Labour: Marx's Theory of Labour as a Value Positing Activity*

There are many possible starting points for understanding Marx's theory value and its attendant constellation of concepts — use-value, labour-value, surplus-value and so on — yet this is not where he himself began his analysis of capital. Instead, Marx begins with an analysis of commodities, *through* which he proceeds to develop a plethora of labour and value-related concepts — the most widely-known and interpreted being his analysis of the 'two-fold character of the labour embodied in commodities' where he details the difference between 'use-value' and 'exchange-value' (Marx, 1983: 48-53), which, importantly, map directly onto the distinction between 'concrete' and 'abstract' labour as 'one of the central points of Marx's theory of value' (Rubin, 2010: 131). In short, what Marx attempts to demonstrate with these concepts is that within the most visible and tangible form of society's wealth one can begin to reveal the complex relations of production in a capitalist society. The commodity, for Marx (1977), was the opening into which a critique of the *social* relations of capitalist production could enter and begin unravelling the complex connexions between the qualitative (concrete) processes of production and the abstract means and methods through which these become value-creating *for* and generative *of* capital.

Use-value in Marx's opening analysis, denotes the basic characteristic of commodities — that they 'serve definite social needs and therefore exist within a social framework … [but]

… they do not express the social relations of production' (1977: 28). The first part of this appears for Marx to be common sense, but the second postulation is particularly important as Marx makes reference to one of his most debated and discussed concepts (see: Becker, 1977: 19-39) — the *social* relations of production. This is a particularly difficult concept to fully pin-down within Marx's own writing, as Postone (2003) observes, but its importance for understanding the *purpose* of Marx's lengthy discussions on commodities, labour, and value is far-reaching. From use-value, Marx then proceeds to intimate what is implied by this notion of the social relations of production by emphasising that: 'As objectification of social labour, all commodities are crystallisations of the *same* substance' (Marx, 1977: 29). What Marx is suggesting here is that, although it may seem on the surface level that say, a coat and a pen, are fundamentally different, there is in fact something that they both share in common — exchange-value, which is itself an expression of one of the most important abstractions throughout Marx's analysis, 'labour-time' (1983): '[r]egarded as exchange-values all commodities are merely definite quantities of *congealed labour-time*' (Marx, 1977: 30). It is already clear here that Marx's theory of value is intricately bound up within an expanding constellation of concepts — labour, exchange, time and so on. Nevertheless, of significance here is the connexion Marx establishes between the two-fold character of the value of commodities (use-value and exchange-value) and the two-fold character of the labour embodied within them (concrete labour and abstract labour).

An important point to emphasise here is the direct connection Marx establishes between (exchange-)value and time through the concept of *labour*. For Marx, there is clearly a great range of qualitatively different forms of concrete labour that produce differing use-values: yet how are they are rendered homogeneous and equalised so that one qualitative labour process may be quantitatively exchanged with another? Put another way, in the *Grundrisse* Marx postulates this problem as one of the need to distinguish between the capacities and capabilities of the *worker* (or '*labour* as subjectivity'), and 'objectified labour' that is value-creating and productive for capital (Marx, 1973). The key to understanding this problem, according to Marx, is the distinction between concrete and abstract labour, for which the concept of *time* is of paramount importance: '[r]egarded as exchange-values all commodities are merely definite quantities of *congealed labour-time*' (Marx, 1977: 30). Labour time was, for Marx, the primary means through which the labouring capacities and *qualities* of workers came into a direct relation with capital as '[t]he *use-value* which confronts capital as posited exchange value is *labour*' [original emphases] (Marx, 1973: 274), and that this relation is characterised by a form of 'exchange between capital and labour' (Marx, 1973: 274). On the one hand workers sell their commodity, labour, 'which has a use value, and as a commodity,

also a *price*, like all other commodities, for a specific sum of exchange values, specific sum of money, which capital concedes' (Marx, 1973: 274); on the other, '[t]he capitalist obtains labour itself, labour as value-positing activity, as productive labour; i.e. he obtains the productive force which maintains and multiplies capital' (Marx,1973: 274). This exchange between capital and labour that transforms the labouring capacities and social qualities of *workers* (as a *workforce*, a working population) into a value positing activity is, as Marx indicates, founded upon an exchange of money (a specific sum of exchange values) for a *selling* of ones labour as a commodity — the calculation of this sum of money being itself founded upon an abstract notion of *labour in general* as a productive and value positing force that can be equalised, measured and calculated in terms of time, hence *labour time*.

From this Marx explains that there is a *general* and *abstract* form of labour in capitalist society that is revealed by the observation that commodities are made exchangeable and therefore of measure against a common denominator, that there is a means of quantifying and equalising the myriad use-values and products of labour as a qualitative capacity. This abstract form of labour, Marx (1983) explains, is only graspable if we consider the problem of how every commodity is capable of being the *measure* of all other commodities — so the question becomes, what is it that commodities all have in common. The answer for Marx is, of course, labour since that is the concrete process through which commodities are made in everyday social life; the main point that Marx is at pains to point out to us is that this labour has been transformed into a *particular yet generalisable* form of measurable value — itself expressed in exchange-value — through a process of abstraction, whereby the specific *qualities* of 'labour as subjectivity' become *quantifiable* 'labour in general' (Marx, 1983). As Morini and Fumagalli point out, during the industrial era Marx was observing, the hegemonic unit of measurement of value was labour time: '[m]ore specifically, it was the temporal unit of a day, as proposed by Marx in *Das Kapital*, marked by a clear distinction between working-time and non-working time' (Morini and Fumagalli, 2010: 248).

At this point in Marx's discussion it becomes a little clearer what is meant by the 'social relations of production' and its connexion to his theory of labour and value. Through the process outlined above, Marx explains that what constitutes a system of measurable and quantifiable exchange for us in our daily lives in a capitalist society is intricately bound up with — and to some extent *derived and abstracted* from — the *relations* of people to the productive capacities of one another. For Marx, this connexion between the qualitative and quantitative dimensions of production leads into a number of arguments and observations about the ways in which the processes involved here are obstructed or veiled in their appearance:

> 'Lastly, it is a characteristic feature of labour which posits exchange-value that it causes the social relations of individuals to appear in the perverted form of a social relation between things … only the conventions of our everyday life make it appear commonplace and ordinary that social relations of production should assume the shape of things, so that the relations into which people enter in the course of their work appear as the relations of things to one another and of things to people' (Marx, 1977: 34).

From the above, it is clear that Marx is attempting to describe a peculiar and, in his terms, perverting process — one in which the productive social relations between individuals come to resemble a relationship between things to the extent that the former become ungraspable in everyday social life. Although my intention here is far from engaging in debates and discussion surrounding the mystifying and veiling properties of capitalistic processes — much of which has been examined and extrapolated at length through Marx's theory of commodity fetishism by scholars such as Adorno (1998, 2001) and Rubin (2010) — an interesting characteristic of the above quotation that I want to call attention to here, however, is the emphasis Marx places upon the *relations* into which people enter in the course of their work.The more general point to make about this transformative process Marx's outlines above, is that value is considered to be an *expression* of social relations between individuals. In the above passage, exchange-value embodied in commodities is described as a "perverting" mediator of the qualitative *social relations* between productive individuals, but note that Marx specifically formulates this transformative process with reference to 'labour *that posits* exchange-value', which, as I have indicated hitherto, constitutes *abstract* general labour, or, labour *measured*, quantified and equalised in terms of *time*. In other words, it is clear to see here that the above passage from *Capital* refers directly to the overall connexion Marx establishes between the qualitative and quantitative dimensions of production — the former being "the relations into which people enter in the course of their work" and the latter being "labour which posits exchange value". The crux of the point I am heading toward here is that Marx's formulation of observations regarding the connexion between labour and value in capitalist society has, at its core, a relational distinction between (i) *labour and value as general characteristics of the social relations between people*, and (ii) *particular abstract forms of labour and value as characteristics of capitalism*. As has been demonstrated thus far, the connexion between these two ways Marx describes labour and value is one of critical importance to his formulation of a general theory of value that specifically avoids treating it as a category of pricing and

exchange. This interpretation of Marx's categories of value I am intimating toward is elucidated at great length by Isaak Rubin (2010).

For Rubin, it is crucial to point out that Marx did not treat value as a category of capitalist exchange in the first and last instance, but that he 'had in mind an opponent who wanted to show that nothing exists except relative exchange values … This opponent was [Samuel] Bailey' [original parentheses] (Rubin, 2010: 108). Rubin's exegesis on this topic and its ramifications for understanding Marx's theory of value is multifaceted to say the least, so I shall attempt to point to the most pertinent aspects regarding labour and value as general expressions of social relations and how these are related to what Marx identified as the particular abstract forms that arise in a capitalist system of production.. Firstly, Rubin explains, Marx had to demonstrate, somehow, that 'value must be revealed behind exchange value' (2010: 109). To show this, Rubin explains that a key element of Marx's theory of value was to show that it had qualitative and quantitative dimensions, and that the former of these is often neglected in favour of a focus upon calculation of exchange-values and, thereby, prices (Rubin 2010). Moreover, Rubin emphasises on multiple occasions that one of the most important oversights of many *interpretations* of Marx's theory of value is that he does not try to differentiate between different *types* of value; rather, Marx was solely concerned with showing that his 'subject was the analysis of one and the same object: value' (Rubin, 2010: 112). In other words, despite Marx using a number of differing terms to describe value — use value, exchange value, surplus value etc. — these are all part of an overall analysis of 'value and its transformations and mutations throughout the complexity of a capitalist system of production' (Rubin, 2010: 115).

In this regard, an important, though fairly simple observation is made by Rubin (2010) — notably, that we must consider the various categories Marx uses to describe value *and* labour as indicating points in the *same* complex *process* of transformation, in which the social relations between individuals become increasingly abstracted into particular categories and measurements — of which, labour time is a hallmark example throughout Marx's analysis.. In fairly simple terms, there are three dimensions *of* value, and these appear in the following order in *Capital*: the *substance* of value, which is expressed in the use-values produced through the labouring capacities of workers; the *magnitude* of value, which, for Marx, finds expression in a capitalist system as abstract labour-time; and, finally, the *form* of value, which is expressed in what Marx refers to as the capacity for exchange *in general*, and through which Marx's theory of commodity fetishism is fully developed into his critique of political economy (Rubin, 2010). Of these three dimensions, Rubin dedicates considerable time to discussing the 'form' of value, since this is the category that he claims political

economists of Marx's time overlooked, especially in terms of its *qualitative* dimension. Nevertheless, as stated earlier, it is not my intention here to carry the current analysis of the connexion between the qualitative and quantitative dimension of production in Marx's work over into an exegesis on his theory of commodity fetishism as the foundation of the critique found within *Capital* (for a detailed outline of this see: Rubin, 2010: 5-60)[12]. Rather, the aim thus far has been to demonstrate the importance Marx places upon the connexion between qualitative social relations and quantitative abstractions about such social relations within his overall analysis of production within a capitalist system. More specifically, I have endeavoured to show the system of thought and categories Marx works through in order to show how the capacities of working individuals to create qualitatively differing use-value(s) are transformed into a general and abstractly equalised form of labour that, to use Marx's term, 'posits exchange value' (Marx, 1973: 274). As is becoming clear, many of Marx's categories for describing labour and value map onto this process Marx outlines and the distinct dichotomy he establishes between the qualitative and quantitative — indeed, this can be seen in the way the terms *substance* and *magnitude* of value map directly onto (i) *labour that produces a use value* and (ii) *abstract labour (labour time) that posits exchange value* respectively.

Here it becomes clear, then, that at the core of Marx's critique of political economy lies an observation regarding the valorisation of multifarious social relations that produce use-values into a *general* system of exchange — it is, to put it simply, a systematic unfurling by Marx of the ways in which social relations and productive capacities *in general* become exchangeable (or equalised) *in general*.. To expand upon this: 'labour which posits exchange-value' (Marx, 1977: 34) — founded as it is upon [a] the quantitative abstraction of *labour-as-capacity-to-produce-use-value* into labour time, and [b] the *embodiment* of this 'universal labour-time' in the commodity as 'exchange-value' (Marx, 1977) — is an expression of the way in which *qualitative* social relations between working individuals are made equivocally *exchangeable* with one another *in general* through processes of abstraction, and that this is most easily observed, according to Marx, in the buying and selling of commodities.. This is very different from an analytical engagement with understanding what the units of such systems of abstraction are in the first instance, though Marx did consider this a necessary task of his critique when he

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[12] Suffice it to say that, in his analysis Rubin demonstrates that, though they are related, there is a fundamental difference between exchange-value and *exchange as the form of value* — the former being an attempt to quantitatively measure, whereas the latter refers to a qualitative aspect of value *as it comes to appear to us.* Rubin further elaborates this by explicitly pointing to what appears to be the subtlest of differences in Marx's terminology: 'The *social form* of commodities and the *form of value (Wertform),* or *form of exchangeability (form der Austauschbarkeit)* are, thus one and the same' (2010: 115). This 'form of exchangeability' Marx refers to does not refer to exchange-value *per se*; it refers to a much broader, transformational process whereby *social relations between individuals take on the appearance of a general form of exchangeability* — which is the same as, the *social relations of individuals appear in the perverted form of a social relation between things.*

set about his analyses of surplus value and its particular forms (Rubin, 2010).Instead, it is Marx's attempt to describe how abstractions about the comings and goings of social life play a crucial role in the transformation and (re)organisation of production that is of import here; how, for example, labour time became the organising principle of everyday working life and was expressed in terms of hours, days, weeks and wages. Moreover, it is particularly revealing that at the foundation of the theory of labour and value outlined thus far lies a preoccupation with understanding the organisation of capitalistic production through a framework that treats the problem of "how the qualitative is quantified" as both central, and revealing in terms of the processes and conceptual relations it opens onto. As has been demonstrated thus far, Marx's theory of labour and value is, in the first instance, a *social* theory of production that not only addresses the ways in which capitalistic economic life is founded upon labour as subjective capacities, but also the ways in which *economic thought* (abstraction) plays a pivotal role in the organisation/orientation of such labour into a standardised value positing activity that, to use Marx's terms, constitutes 'the productive force that maintains and multiplies capital' (1973: 274). The importance of this aspect of Marx's work to his overall critique of Capital is highlighted by Jean Baudrillard, who recognised this as the task of 'unmasking the "dialectic" of quantity and quality, behind which hides the definitive structural institution of the field of value' (1975: 25).

### 3.1.2 —*Surplus Value and Cooperation: the 'Problem of Profit' and the Productive Power of Labour*

A particular aspect of Marx's theory of value that is examined at great length in volume one of Capital (Marx, 1983) is his theory of surplus value. At the outset it is worth noting that throughout the section of Capital dedicated to surplus value Marx attributes a great deal of importance to the concept of labour power as a means of denoting what I referred to above as the subjective capacities of workers which, when set in motion as a value positing activity for capital, becomes 'labour power in action, a labourer' (Marx, 1983: 173). Indeed, it is particularly telling that the section dedicated to surplus value begins with a detailed outline of the transition labour undergoes from a use value creating process to a 'process by which the capitalist consumes labour power' (Marx, 1983: 180) as a means of obtaining a further dimension of value — surplus. As shall be demonstrated throughout this section, the connexion between labour and value examined so far — that is, the between labour and use value(s) as fundamentally qualitative dimensions of social relations and the ways in which these obtain quantified counterparts in a capitalist system of production — is brought forward and expanded in greater detail through Marx's theory of surplus value as he proceeds

to outline *the creation of a specific type of value* that is at the core of the exploitative character of capitalist production.

Marx begins his analysis of surplus value by identifying the first of what he outlines as the two forms through which it can be understood; the first of these being the production of absolute surplus value. What is particularly striking at this point in Marx's analysis is the way in which he begins with a detailed description of the labour process as a fundamentally qualitative process of creativity and application of capacities, before he then moves to discuss how: '[t]he labour process … [is] turned into the process by which the capitalist consumes labour-power' (Marx, 1983: 180). From here, Marx clearly explains that:

> 'We have now to consider this labour under a very different aspect from that which it had during the labour-process; there, we viewed it solely as the particular kind of human activity which changes cotton into yarn; … Here, on the contrary, where we consider the labour of the spinner only in so far as it is value-creating, *i.e.*, a source of value, his labour differs in no respect from the labour of the man who bores cannon … Here, we have nothing more to do with the *quality*, the nature and the specific character of the labour, but merely with its *quantity*' [emphases added] (Marx, 1983: 183-184).

From this quote — and considering the above outline of what I have hitherto referred to as Marx's formulation of the qualitative and quantitative dimensions of production — it is clear that, from the outset, Marx's theory of surplus value is intended as a direct continuation of his theoretical distinction between concrete and abstract labour, use value and exchange value, and the role of labour time as an equalising abstraction that posits labour as a value-creating activity. As the above quote indicates, however, this continuation of Marx's analysis moves away from a joint consideration of the qualitative and quantitative dimensions of labour and value to a prioritisation of providing more detail on the latter — in short, Marx moves to provide a systematic analysis of what happens to labour when it becomes a value positing activity *for* capital that is *set in motion* as an abstract and equalised *measure* of labour *time*. Indeed, the foundation of this analysis of absolute surplus value rests heavily upon the way in which, as Marx foresaw it, definite quantities of product (commodities) come to represent nothing but definite quantities of labour, that is 'definite masses of crystallised labour-time' (Marx, 1983: 184).

The central problem that Marx put forward in his initial formulation of the production of absolute surplus value takes this consideration of abstract labour time and the way in which it is embodied within commodities as a starting point for a further consideration: how can a commodity, which possesses a specific use-value and a general exchange value, become a source of more value than the constituent components involved in its creation? For Marx, this problem is confined to the relation between capital and labour power and the way in which the latter becomes the origin point of a commodity being *'a source not only of value, but of more value than it has itself'* (Marx, 1983: 188). This creation of more value (surplus) than has been invested in the creation of a given commodity is, for Marx, something which is confined entirely to the sphere of production, where the labour power and capacities of workers are combined with the necessary materials to convert 'value, *i.e.*, past, materialised, and dead labour into capital, into value big with value' (Marx, 1983: 189).

This attribute of labour power as the source of commodities becoming generative of surplus value beyond that which was required in their creation is of central importance to the way in which Marx considers the process of creating surplus value as a *continuation* — rather than a transformation — of the production of value examined so far. For Marx, the creation of surplus value is nothing more than a continuation of the process of producing value (use value to exchange value) beyond a definite point (Marx 1983). As Marx elaborates:

> 'If on the one hand the process not be carried beyond the point, where the value paid by the capitalist for labour-power is replaced by an exact equivalent, it is simply a process of producing value; if, on the other hand, it continued beyond that point, it becomes a process of creating surplus value' (1983: 189-190).

Initially, this definite point at which the creation of value becomes a generation of surplus value is not clearly defined. However, Marx goes on to explain that the generation of absolute surplus value — and the definite point at which this comes to pass from the general process of creating value — is merely a question of the time occupied by labour-power in doing the work necessary to produce a definite quantity of commodities; that is, 'of the period during which the labour-power is usefully expended' (Marx, 1983: 190). In other words, we return once again to the concept of labour time and the importance of this quantitative measure to the process of capitalist production — of producing capital. However, it is important to point out here that the point at which the creation of value becomes generative of absolute

surplus value rests, according to Marx, on a quantitative excess of labour, 'from a lengthening-out of one and the same labour-process' (Marx, 1983: 192) so that the expended labour power producing commodities is elongated, expended in excess; more time spent labouring in a given accounting period of *paid for* labour power brings about a greater generation of surplus value extracted from that labour power. Nevertheless, the main point of significance here is the way in which Marx attributes, once again, a foundational importance to the role of time as a quantitative measure of labour and the value it produces. Indeed, it is particularly telling that Marx's calculations of the degree of exploitation of labour power — or, the rate of absolute surplus value — is primarily preoccupied with revealing the ways in which the expenditure of labour power over the course of a working day is both generative of absolute surplus value and a site of contestation with regards to the number of hours it contains; that the determination of "what is a working day" constitutes a focal point through which the means and quantitative calculations of how surplus value is created are most easily observed. It is at this point in Marx's analysis that the overarching problem of how to generate profit becomes clearly placed at the centre of his conceptual outlining of the ways in which labour and value are subjected to systems of quantified measure and abstraction. The generation of absolute surplus value, as has been shown above, rests heavily upon the attribution of quantified units of measure of the *time* taken by labour power to produce definite quantities of product; and that this time must be elongated and applied in excess if the rate of surplus value is to be *increased*, given that the necessary labour time required to produce is constant and the length of the working day is variable (Marx, 1983). An important corollary of this formulation of the generation of surplus value is that of a distinction between necessary labour — that required to produce value equivalent to that expended on production — and the surplus labour remaining in a given working day beyond the point of the former.

The second form of surplus value that Marx proceeds to discuss that is of critical importance to his overall theory of the exploitation of labour power — that is, the labouring capacities of workers. Up to this point of consideration, the rate of surplus value depended on the magnitude of the prolongation of the length of the working day beyond the necessary labour time required for the generated value to be equivalent to expenditure on production. However, Marx poses yet another problem for consideration with regards to the generation of surplus value beyond that which can be obtained by prolonging the working day — he poses, as it were, another problem of how to a capitalist system of production can generate capital, a 'problem of profit'. Denoting the portion of the working day that falls beyond the

point of necessary production as c, Marx asks: 'How can the production of surplus-value be increased, *i.e.*, how can the surplus-labour be prolonged, without, or independently of, any prolongation of c?' (1983: 296).

The answer to this problem, as Marx saw it in his time, was made feasible via three possible means. The first of these being a decrease in the wages provided to labourers for their expenditure of their labour power; whilst the second means of increasing the production of surplus value lay in the reduction of the costs of goods required for the application of labour power in processes of production. Yet, these two means of increasing the surplus yielded from a single working day can only be implemented up to definite points, beyond which either labour power becomes unsustainable through a continuous reduction in means of subsistence (reduction in wages), or the production of commodities becomes inhibited through a lack of cheaper available resources to those currently in use. It is the third means of acquiring and increasing relative surplus value to which Marx pays particular attention, and, for the purposes of this investigation, are of great significance to the following section of this chapter on cooperation and the sociality of production.

Given that the prolongation of the working day is the means through which absolute surplus value is made possible, Marx explains that the only way to further transfer portions of this given period — be it 6, 9 or 12 hours etc. — over from the necessary labour required to meet expenditures on production to surplus labour time is to increase the productivity of labour. In Marx's terms '[g]iven the length of the working day, the prolongation of the surplus-labour must of necessity originate in the curtailment of necessary labour-time' (Marx, 1983: 298). To explain this, Marx goes on to demonstrate that surplus labour time can be increased *if* the intensity — and hence *productivity*, from the perspective of capital — of the labour process is increased then there will be a corresponding reduction in the necessary labour time required to meet expenditures on production and a corresponding increase in the quantity surplus labour-time throughout the working day. At this juncture a key insight comes to the fore that ties more directly into the overall understanding of the adaptability of capitalistic valorisation processes that Marx's analysis drives toward: that for this increase in the productivity of labour to be achieved 'the conditions of production, *i.e.*, his … [the labourers] … mode of production, and the labour-process itself, must be revolutionised' (Marx, 1983: 298). To understand this process, Marx explains that it cannot be the prerogative of capital to simply prolong a given and absolute process of production, but that the *technical* and *social* conditions (Marx, 1983) of this process must be revolutionised and recreated *ad infinatum* in accordance with the seeking out of greater rates of surplus value. The significance of this observation, as shall become clear, lies in the connexion that is made

here by Marx between what I have outlined above as the abstract properties attributed to qualitative labour processes and use-value(s) as quantified labour time and exchange-value (what Marx calls 'the law of the determination of value by labour-time), and the means through which such qualitative processes can be modified and revolutionised in order to increase the quantity of surplus-value they give rise to. For Marx, it is the pivotal role that the abstract notion of labour time plays here in defining the limits of capitalist production processes, and how these can be overcome through increases in *measured productivity*, that is of particular significance to understanding the generation of relative surplus value. In order to contextualise and make sense of the notion of increases in productivity through a revolutionisation of the technical and social conditions of production, Marx then moves to discuss the role and value of cooperation.

The theory of surplus value discussed so far has detailed the ways in which the absolute and relative forms derive from calculative processes regarding the length of working periods, expenditures, and the productivity of labour. However, in order to elucidate the latter of these processes and demonstrate exactly what is meant by a revolutionisation of the technical and social conditions of production, Marx moves to explain the importance of considering how *capitalist* production — and, more specifically, the creation of surplus value — can only be understood if we take into account the comparatively large numbers of workers involved in the labour process *considered as a whole*; that is, 'when consequently the labour-process is carried on on an extensive scale and yields, relatively, large quantities of products' (Marx, 1983: 305). Taking this into account, and considering the vast quantities of production and labour processes involved, Marx points out that a previously unconsidered source of the aforementioned desire to increase productivity comes to light: the cooperative capacities of labour power. For Marx, when numerous labourers work together in either one and the same process, or different but connected processes — that is, when workers work in *co*-operation — they give rise to a capacity to carry out labour that would be previously impossible, or, at least, only possible through a great expenditure of time on the part of a few labourers. As Marx puts it:

> '[T]he effect of combined labour could either not be produced at all by isolated individual labour, or it could only be produced by a great expenditure of time, or on a very dwarfed scale. Not only do we have here an increase in the productive power of the individual, by means of cooperation, but the creation of a new power, namely, the collective power of the masses' (Marx, 1983: 308-309).

A further connexion is established here between this collective power of the masses and the generation of surplus value through a revolutionising of the social conditions of production. As the above quotation demonstrates, it is of great significance that the cooperative capacities of workers *en masse* enables a greater efficiency in the work to be done — what is referred to above as "the effect of combined labour".

The significance of this effect is highlighted by Marx in his description of how a complicated labour process, if it is carried out by a greater number of cooperative labourers apportioned to different but connected operations, can be shortened in terms of the labour-time required to complete it (Marx, 1983). Through this, the cooperative capacities of labour power can be understood to not only increase the efficiency of the labour process in general, but also to simultaneously shorten — or, to use Marx's term, truncate — the necessary labour time required to complete a task and increase the amount of surplus labour time contained within a working day *without* the need to extend its duration in absolute terms (Marx, 1983). Rather, this capacity of cooperative labour power is a means through which the productivity of a given working day can be increased in *relative* terms — that is, generative of surplus value. As Marx goes on to further explain, a single labourer cannot carve a working day of more than, say twelve hours, out of a single twenty-four hour period; on the other hand, one hundred workers cooperating over a twelve hour period extends the overall duration of the working day to one thousand two hundred hours. What we are confronted with then becomes what Marx calls 'numerous combined working days' (1983: 310) that produce, 'relatively to an equal sum of isolated working-days, a greater quantity of use-values, and, consequently, diminishes the labour time necessary for the production of a given useful effect' (1983: 311).

We can see here that what Marx is pointing toward is not a specific calculation of surplus value or of the labour time required to complete certain tasks; rather, Marx is pointing toward a general capacity of cooperation *as a qualitative attribute of the sociality of labourers* that, when considered within the framework of an abstract system of capitalist production, plays a pivotal role in the generative capacities of labour power (more specifically '*co*-operative labour power') to create relative amounts, or quantities, of surplus value — for Marx, this is, quite simply, a foundational element in a process whereby capitalist production acquires an increased productive power *through* the labour power (1983). The special productive power of the combined working day as I have outlined it above is, according to Marx, 'under all circumstances, the *social* productive power of labour, or the productive power of *social* labour. This power is due to co-operation itself' [emphases added] (Marx, 1983: 312).

In the industrial era Marx observed, the number of co-operative labourers, or the scale of cooperation, depended primarily upon the amount of capital that could be spared for the purchase of labour power; that is, it depended on the quantity of waged-labour employed in the process of production — what Marx called the 'material condition for the co-operation of wage labourers' (1983: 312). This is a crucially important point to bear in mind throughout the course of this investigation as it lies at the very core of how the theory outlined up to this point leads onto a revisiting of the social factory thesis and sympathetic cooperation *as a theory of the adaptability of capitalist valorisation processes*. Indeed, as has been pointed out by a number of theorists preoccupied with understanding recent changes and adaptations of capital, the labour-time/wage-labour relation upon which this system of surplus value generation rests is — and has been — noticeably diminishing as the hegemonic organising principle of capitalist production (see for example: Gorz, 1999: 88-93; Vercellone, 2010).

Nevertheless, my aim in pointing to this section of the theory of surplus value dedicated to cooperation has been to demonstrate — in keeping with the aims of the above discussion on the qualitative and quantitative dimensions of labour and value — that a central tenet of Marx's overall theory of capitalist production rests upon a detailing of the ways in which the capacities of workers (considered either as individuals or, more importantly, as a social collective) are abstracted into general forms, labour time and exchange-value, that consequently provide the basis for a calculable and adaptive system of value-creation *beyond* that which is necessary to reproduce or replicate it. Moreover, a crucial component in this theory is Marx's emphasis on cooperation as a foundational basis for the 'conversion of numerous isolated and independent processes into one combined social process' (Marx, 1983: 312-313). The centrality of this social process to emphasised clearly by Marx when he states that: [h]ence, the productive power developed by the labourer when working in co-operation, *is* the productive power of capital' [emphasis added] (1983: 315). Clearly, then, social cooperation for Marx lies at the very core of the productivity of economic life and it is this seemingly qualitative attribute of *people brought together* into a process of production that forms one of — if not the — cornerstones of value-creation *for* capital (that is, surplus value). Indeed, '[b]ecause this power costs capital nothing … it appears as a power with which capital is endowed by Nature — a productive power that is immanent in capital' (Marx, 1983: 315).

Bringing this consideration of cooperation back to bear upon the specific problem of surplus value outlined hitherto, Marx reiterates that the transformation of the labour-process into a mass social process forms the method employed by capital for the more profitable exploitation of labour; and that this is achieved precisely through the increase in labour's productiveness that social cooperation — considered on an increasingly mass scale — brings

about (Marx, 1983). So, it is clear to see then that, for Marx, cooperation between labourers — that is, the social relations into which they enter as *labour-power made productive for capital* — forms the basis of not only the mode through which capitalist production operates, but also the adaptability of this process as it reforms and converts the social conditions of production. As a final point, and to reiterate, Marx postulates in the *Grundrisse* that: 'it is, in a word, the development of the *social* individual which appears as the great foundation-stone of production and of wealth' (1973: 705).

What I have attempted to demonstrate in the above discussion thus far is that a general tenet of Marx's theory on the qualitative and quantitative dimensions of production is, firstly, that labour and value are intricately connected within and across both of these dimensions. Further, I have highlighted the importance Marx places upon the way in which labour and the use-value it produces takes on an abstract general form in a capitalist system of production where *productivity* — in Marx's time of writing — is subjected to means of measure and calculation in terms of *time*, hence labour-time. Secondly, I have attempted to show that Marx's theory of absolute and relative surplus value is a direct continuation of his theory of the qualitative and quantitative dimensions of production that moves to demonstrate the way in which the abstract forms of labour(-time), (exchange-)value, and productivity play a crucial role in the organisation and *exploitation* of labour power and its cooperative capacities — this point was emphasised above through a discussion of Marx's treatment of the working day. A general, yet highly significant point to emerge from this was the way in which an understanding of surplus value and the exploitation of labour power was presented by Marx as a problem that can be overcome through various means. This problematising of the way in which a capitalist system of production seeks out surplus value was framed in terms of "how to increase productivity" in Marx's analysis, at which point the notion of cooperation became a central explanatory device. Social cooperation, for Marx, constitutes a central organising principle upon which the productivity and adaptability of surplus value creation rests — cooperation, in Marx's terms, 'ever constitutes the fundamental form of the capitalist mode of production' (1983: 317).

To sum up, from the above two general points become evidently clear; and from which the following section shall orientate. The first of these is the way in which Marx moves from a discussion of the ways in which labour and value take on general abstract forms in a capitalist system of production, to a more specified detailing of the role such abstractions play in the problem of "how to increase productivity", "how to generate surplus" — that is,

the problem of "how to profit[13]". The second point, which is in no way separated or distinct from the former, relates to the primacy Marx places upon the role of social cooperation as a foundational basis upon which such productivity can be increased; this was detailed through a reading of how a given labour process, or processes, can be increased through a multiplication of simultaneous, cooperative working days. The importance placed upon the role of social cooperation and the problem of "how to profit" are central preoccupations of the following section, which shall now return to the previously discussed notion of the social factory and a more recent set of arguments revolving around the notion of 'sympathetic cooperation' (Lazzarato, 2008; Terranova, 2009, 2014).

### 3.2 — **From Social Production to Sympathetic Cooperation: a Return to the Social Factory Thesis**

Retaining the above considerations clearly in mind, I want now to turn to a discussion of the contemporary context of socio-economic production and the previously discussed notion of a social factory — or, a factory without walls. As shall become clear, the concepts outlined in the above section on Marx's theory of the qualitative and quantitative dimensions of production, surplus value, and the role of social cooperation in the productivity of capitalistic production are great significance to current debates addressing changes to labour and value-creation that have developed in tandem with the proliferation and adoption of digital/new media technologies into various spheres of everyday social life. In particular, the aforementioned emphasis Marx places upon social cooperation in his formulation of the *productivity* of capitalist production and surplus value generation is particularly apposite with regards to a collection of literature closely connected to that previously discussed on the social factory logic of contemporary capitalism — that is, a currently emerging body of literature on social or 'sympathetic cooperation'.

However, discussion reviving around the social character of production in todays world of new and digital media networks is not limited to that deriving either directly or in relation to Autonomous Marxist writings on the social factory, immaterial labour and the general intellect. There is, in fact, a well established area of literature that seeks to detail the ways in which traditional market systems based around the buying and selling of labour and/or commodities is currently being challenged by the proliferation of digital 'networks of

[13] Note here that I am not referring to profit in a specific sense as distinct from interest, ground rent and so on. Rather, I am pointing toward the notion of profit *in general* — that is, to gain more from a process than was expended on the setting in motion of said process.

social production' (Benkler, 2006). It is to this literature that I shall now turn before moving to discuss the ways in which these socio-economic processes and adaptations are being considered *through* a theoretical lens with questions of capitalism firmly in view.

### 3.2.1 — *Social Production: a Prevailing Perspective on the Sociality of Production Today*

The emergence and proliferation of digital an new media networks of information sharing and content creation have become the subject of a great deal of literature. For example, there are those concerned with the legal implications of free content sharing, user-creativity, and copyright issues (Lessig, 2006). One particular area of literature that has garnered a considerable amount of attention, however, concerns the ways in which computer technologies and networked media have radically changed the organisation and processes of socio-economic production to such an extent as the render previous understandings of labour, value, commodities *etc.* either completely obsolete, or at the very least highly problematic. One such writer in this area is Yochai Bencher who, in his widely cited book *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, provides a highly detailed and systematic analysis of the ways in which technological developments has brought about an era in which we are beginning to see radical changes in the organisation and implementation of socio-economic production (2006). Benkler outlines a number of key interrelated developments in relation to this that all, in his view, have come together to transform the ways in which in markets operate and socio-economic processes of exchange, development and production are carried out on a daily basis.

The first of these developments, as Benkler and many other scholars argue, is a move away from an economy based on material products and commodities as the hegemonic mode of production, and a trend towards 'an economy centred on information (financial services, accounting, software, science) and cultural (films, music) production, and the manipulation of symbols (from making sneakers to branding them and manufacturing the cultural significance of the Swoosh)' (Benkler, 2006: 3). Benkler, akin to scholars working within the 'information society' literature outlined in chapter two, refers to this development as the emergence of the 'networked information economy' (Benkler, 2006), within which we find an increasingly complex system of production founded upon the development and manipulation of information that is rapidly displacing the industrial economy thinkers such as Marx observed in their day.

The second development Benkler points to in his analysis is the move toward a communications environment that is highly accessible, courtesy of the cheapness and availability of computation capabilities, and that interconnected in a pervasive network of connectivity (2006) — in short, what is commonly referred to as the Internet. This second development of particular significance to Benkler and other theorists of social production as it purportedly 'allows for an increasing role for nonmarket production in the information and cultural production sector, organized in a radically more decentralized pattern than was true of this sector in the twentieth century' (Benkler, 2006: 3). The implications of such an increased role in non-market production are, for thinkers such as Benkler, far reaching and of crucial importance to what he refers to as the political connection between an economy of networked information and the ethic of liberal, democratic societies (Benkler, 2006).

At this point the role and importance of social cooperation is emphasised as a foundational element of the hitherto outlined rise of "new" a socio-economic mode of production based upon non-market models of exchange. For thinkers such as Benkler, what characterises the networked information economy is not ownership and propriety over the means through which informational goods can be produced, but rather a decentralised individual action — 'specifically, new and important cooperative and coordinate action carried out through radically distributed, nonmarket mechanisms that do not depend on proprietary strategies' (Benkler, 2006: 26) — comes to occupy a central role in the production and reproduction of an economy that is characterised by freely available and open-to-all information. This purported negation or shift away from proprietary markets is having, according to thinkers such as Benkler (2006) and Leadbeater (2009), a profound effect on the political ethos that underpins everyday socio-economic activity. The rise of effective, large scale cooperative efforts to create, say, open-source software such as LINUX, exemplifies what is considered to be a democratising ethos that many 'liberal theorists of social production' such as Benkler (2006) point toward as a result of a networked information economy founded upon the freely-given and freely-accessible cooperative efforts of peer production. The overall political implications of this, for Benkler, are the rise of a socio-economic system of production that not only incorporates, but is *founded* upon an increasingly robust ethic of cooperative open sharing that forces us think 'about how individual need and creativity drive innovation at the individual level, and its diffusion through networks of like-minded individuals' (Benkler, 2006: 5).

Although this perspective emphasises the important and foundational role social cooperation plays in processes of production, there a few points of critique that come to the fore when one considers the further implications of adopting such a view as a means for understanding what is — and, by extension is *not* — continuous between this "new" and "emerging" logic of socio-economic life and the system of capitalist production prevalent in the nineteenth and twentieth centuries. Are we to assume from the outset that, as Arvidsson suggests, '[s]ocial production has … been greatly empowered, and liberated from direct capitalist command' (2009: 14)? Moreover, and as Arvidsson points out in his critique of Benkler's liberal perspective on social production, is it really the case that the growth of social production will entail a growing amount of resources changing hands outside of market mechanisms, and that by definition such resources will be freely available and hence *without value* (Arvidsson, 2009)

Another, more in-depth point of critique is offered up by Terranova (2009) that acknowledges the importance liberal theories of social production such as Benkler's place upon social cooperation, whilst at the same time demonstrating the limits of this perspective in offering up an outline of a definitive alternative to the kinds of capitalist market logics it purports to provide. For Terranova (2009), it can be argued that liberal theories of social production such as that outlined by Benkler do not offer up an alternative logic of production to those characterised by capitalist markets, and that this can be demonstrated through the way in which it does not significantly break with the overall economic rationality profitable productivity. Even if we take it as a given that non-market production is based upon social cooperation, Terranova argues that is still becomes economically effective — it still becomes endowed with the status of an economic phenomenon — because 'it increases the overall productivity in the sectors where it is effective . . . and presents new sources of competition to incumbents that produce information goods for which there are now socially produced substitutes' (Benkler, 2006: 122, quoted in Terranova, 2009: 252). As such, it would seem plausible to suggest that social cooperation — as a productive force — 'would thus simply correct some inefficiencies inherent in the mechanisms of economic competition, satisfy those needs that are not catered for by markets and even feed directly into them' (Terranova, 2009: 252). This point is further expanded by Terranova, who demonstrates that social production, as described by thinkers such as Benkler, can become *measurably* effective and thereby acquire the abstract value of an economic phenomenon 'only as long as it manages to spur innovation and hence competition in the market economy' (Terranova, 2009: 252). This last point os of particular importance here as it provides a basis for suggesting that social production can become, perhaps only in certain

instances, subjected to abstract systems of capitalistic calculation, measure, and thereby control — the likes of which I have endeavoured to outline above through a detailed reading of Marx's formulation of the qualitative and quantitative dimensions of production and the generation of surplus value. In light of this, it seems apposite to pose the question of how and in what ways can we conceptualise and make sense of the role social cooperation plays in contemporary socio-economic life without abandoning — or, at the very least, diminishing — the importance of querying the ways in which capitalist processes of valorisation may, or may not, be of significance to such an understanding. Indeed, for Terranova, once passed through the 'reflective prism' of political economy, social production 'seems destined to remain subaltern to the logic of capitalist markets as a whole' (2009: 252).

### 3.2.2 — *Sympathetic Cooperation: on the Constituent Powers and Proposed Incommensurability of the Social*

A general theme that has been developing over the course of this chapter — from the initial discussion on Marx's formulation of the quantitative and qualitative dimensions of production, to the current preoccupation with the notion of social production — is the emphasis placed upon the role of cooperation in economic production throughout. In the previous chapter, I dedicated considerable time to outlining the social factory thesis and its merits as a much needed counterpoint to social analyses of socio-economic change in which the question of capitalism was distinctly lacking. It is to this social factory thesis that I want to now return, but in a renewed light: through a focus upon the ways in which the concept of cooperation has been recently developed by scholars working within and in dialogue with the Autonomous Marxist tradition. In particular, I want to play particular attention to the notion of 'sympathetic cooperation' as it as been outlined and discussed by Terranova's (2009; 2014) readings of Maurizio Lazzarato's *Puissances de l'invention: la psychologie économique de Gabriel Tarde contre l'économie politique* and *Les Revolutions du Capitalism*. My overall aim in doing so is to bring the current discussion regarding labour, value and social production back to a focus upon the social factory thesis as a postulation of life in general becoming the domain of capitalistic valorisation — albeit with a renewed emphasis on, and elucidation of, the *social* .

The concept of 'sympathetic cooperation', as developed by Lazzarato, denotes not only the collaborative and collective efforts of workers undergoing a labour process; rather, what is encapsulated by this term is the autonomous, independent and creative cooperation of people *in general* as they go about their everyday social lives, and it is this that forms the 'premise of the production economic value and of the division of labour' (Lazzarato, 2002: 8,

quoted in Terranova, 2009: 252). To further elaborate, the source of wealth as we understand it today is not reducible to land, labour, capital or utility but within *invention* and *association* as relational properties of cooperation *in general* between people. As such, sympathetic cooperation forms the basis of economic value 'once the latter is understood in terms of the production and diffusion of the new' (Terranova, 2009: 252-253). From this perspective, it is the emergence of new economic, social and aesthetic relations that — through cooperative associations — forms the basis of economic value, labour processes and the division of such labour processes. As Terranova points out, it is of course possible to be caught within a division of labour in the workplace, but this does not negate the possibility of simultaneously being part of different networks or associations (2009) that are themselves also *productive* of new economic and social relations. Considered in this way, we arrive at a notion of cooperation that further expands upon the way in which Marx considered the socially cooperative capacities of labourers to be the foundation of increases in productivity. Instead of a notion of cooperation restricted to economic processes of production and the collaborative creation of use-values, we have here instead a broader notion that treats cooperation as the relational basis upon which the general *productivity* and *creativity* of social life is founded. As such, the engine of social production would not lie within the subjective interior of any given individual and their capacities to *work* but within the in-between of the social relation (Terranova, 2009).

Clearly, from the outset, the emphasis of this notion of sympathetic cooperation lies upon the relational capacities that form and reform social and economic life, that catalyse moments of creation, invention, and diffusion. To consider labour and value through this lens allows one to suggest that the production of economic value in particular does not presuppose the optimisation and standardisation of bodily and mental processes, 'but the invention and diffusion of new *values* and new forms of life' [emphasis added] (Terranova, 2009: 254). This notion of sympathetic cooperation, as Terranova suggests:

> 'appears of particular value inasmuch as it makes it possible to think of social co-operation as the a priori of all economic processes, rather than one particular form among others or an a posteriori reconciliation of economic and social life. It argues, in fact, that economic life cannot be considered as a distinct domain from the social life that underlies it' (2009: 254-255).

Inasmuch as this can be placed into juxtaposition with the previously discussed notion of cooperation found in Marx's own writings, the notion of sympathetic cooperation makes it possible to think of the productivity of social life *in general* — which, here, is indistinguishable from economic life — in relational action (Terranova, 2009) and association rather than definite and predefined processes of, say labour or consumption.

Considering the more specific question of the current production of value within todays context of information networks, digital content sharing and user-creativity, the notion of sympathetic cooperation makes it possible to think about economic value as a measure that only partially captures the more general processes of production that unfold in the in-between of social relations (Terranova, 2009). Of crucial importance here being not only the the production of *uses* — or, utilities in an economic sense — but also the creation and sharing of common beliefs, desires and affects and so on. The core point that I am aiming toward here is that of an expanded notion of value that, similarly akin to Marx's treatment of it as retaining both a qualitative and quantitative dimension, treats general sociality between people as they build, create and reimagine forms of life as *the* foundational element upon which defined and distinct forms of value are made possible. Such an understanding rests upon a consideration of social cooperation 'as the key mechanism in the production of as value that cannot only be considered abstractly economic — but is inseparable from subjective, social values such as truth-values, aesthetic value, utility-values, existential-values' (Terranova, 2009: 256).

Coupled with the previously outlined social factory thesis — and its attendant postulations regarding the ways in which capitalist valorisation processes have come to incorporate, or capture, the generality of social life as a source of *economic* value — this notion of sympathetic cooperation provides us with a further refinement of thinking through what is (and perhaps is not) subsumed by capitalism, that is what the sources of the production of value are. As I have previously indicated, the concept of sympathetic cooperation is, as Terranova clarifies, related to the post-workerist assumption that capitalism is forced today to incorporate a generalised forms of social labour into the cycles of production and value-creation — cycles which are not confined to a wage-labour relation, but performed by society as a whole, as a kind of social factory (Terranova, 2014). If we consider sympathetic cooperation — as it has hitherto been discussed — as being at the core of the developments that have given rise to the notion of society becoming a social factory, it becomes evident that concerns regarding the character of labour and the source(s) of value must be directed at the production of subjectivity; the production of desires, beliefs, aspirations, knowledges, ways of living and so on. In other words, the notion that we are today witnessing the rise of a

social factory appears in a new light whereby the emphasis on the *social* denotes the centrality of the 'constituent powers of the socius' for the economic process of valorisation (Alliez, quoted in Terranova, 2014: [online]). Through such an understanding, it becomes possible to consider the ways in which the constituent powers of the social are characterised by a sympathetic cooperation that is founded upon the drawing together of individuals through their beliefs, desires and affects. Indeed, individuals are not endowed with a working knowledge of the world; instead, they are predisposed to action within the world through a series of shared and cooperatively produced beliefs and desires. 'Without this cooperation, without the effectuation or actualisation of a social world, there could be no division of labour and no production altogether, because nothing new would be there to be 'reproduced' ' (Terranova, 2014: [online]).

Returning once again the stated issue of making sense of what is exploited or expropriated by contemporary capitalism — that is, the issue of what, exactly, are the sources of value within the framework of understanding contemporary capitalism as a social factory — this notion of sympathetic cooperation and its attention to the role of beliefs, values and worldviews provides us with a renewed point of focus. It allows us to begin unpicking and questioning the ways in which contemporary capitalism is expropriating value from 'the associative dynamics through which individuals … capture each other's attention, compose every-varying new beliefs, desires and forms of association, and constitute a socius by continuously re-actualising the world's possibilities' (Terranova, 2014: [online]). That is, we can begin questioning the ways in which capital can — and thereby cannot — capture the productive powers of cooperation through methods of intervention that harness the capacity of such cooperation to produce not just objects or subjects, but worlds to live in (Terranova, 2014). Through this understanding we are faced with a situation in which the logic of the social factory *as an adaptation of capitalistic valorisation processes* does not appear as a singular logic to be applied across all of social life, but rather *a logic of adaptability rooted in the potentialities and creative capacities that social cooperation gives ever-renewed rise to*. The question now becomes one of the way in which capital intervenes to harness the productive powers of sympathetic cooperation and the potentialities it gives rise to. Terranova elucidates this through the example of the smart phone:

> '[O]ne does not so much use a smart phone, a search engine or a social network, but one becomes part of its constitution – but under the direction and management of the corporation who 'own' the operating system, the algorithm or the servers and has

> control of the proprietary technology. Cooperation is harnessed by digital media, put to work by communicative capitalism (made to adapt to the rhythms of the post-industrial production line, whether by means of 'nuggets of enjoyment' or the blackmail of precarity)' (Terranova, 2014: [online]).

Thus far I have only hinted at the ways in which such an understanding of the productive power of cooperation presents capital with what a number of writers have described as the problem of incommensurability. For the most part, this proposed problem derives from what writers such as Morini and Fumagalli describe as a need, on the hand, for capital to accumulate for which the measure of value is fundamental; on the other hand, there is an apparent inability on the part of capitalistic processes of valorisation and measure to fully realise the value of subjectivity and cooperation, what they refer to as 'the potentiality of the subject' (Morini and Fumagalli, 2010: 236). Because the source of value and exchange is no longer abstract labour in the sense Marx described it — as measurable labour-time — but rather the experiential, relational and creative dimensions of subjectivity, Morini and Fumagalli postulate that the production of wealth is becoming increasingly based on 'intangible 'raw materials', which are difficult to measure and quantify since they directly result from the use of the relational, emotional and cognitive faculties of human beings' (2010: 235). Indeed, writers such as Andre Gorz also point toward this problem that faces capital as it shifts away from a mode of production founded upon the measure of labour-time, productivity and the wage, and toward an attempted valuation of intangibles that have their root in the capacity of 'social individuals' to make use of knowledge, information and computing power through their own self-organised cooperation (Gorz, 1999).

Certain writers operating out of the Autonomous Marxist school of thought have also pointed to this problem of the incommensurability of social production that is concomitant to a 'crisis of the labour law of value' (Vercellone, 2010). What is at stake, according to Marazzi, is the current need for capital to search for rules of social production and the *measuring unit* that defines these rules, much like labour-time and productivity were for the industrial model of capitalist production (2011b). This situation brings capital to a point in which the implications concerning 'the question of measure' (Marazzi, 2011b) are of paramount concern if a system of surplus value accumulation is to be established. As subjective difference and the cooperative capacities of people going about their daily social lives become increasingly incorporated into technical systems that attempt to capture their value, so too is capital presented with a problem measure. It is, for writers such as Marazzi,

the very qualitative processes of cooperation and creativity that form the basis of the productivity of social life in general that confront capital 'with *incommensurable* criteria of valuation' (2011b: 79). Vercellone provides some further comments of clarification on this point in his description of the way in which financial markets procure rent:

> Despite the torsion introduced by terms like "intellectual capital", "intangible capital" or "human capital", such capital is nothing other than collective intelligence. It consequently escapes any objective measurement. Its value can't be anything but the *subjective* expression of the *expectation* for future profits effectuated by financial markets who procure themselves rent in this way' [emphases added] (Vercellone, 2010: 110).

Again we can see here the role attributed to beliefs, desires and subjective values — themselves the product of what has been outlined here as 'sympathetic cooperation' — as Vercellone refers to the value instantiated by subjective expectations for future profits in financial markets.

Nevertheless, the overall point I am attempting to demonstrate here is that there is a current preoccupation with making sense of the ways in which the qualitative dimensions of production today are subjected to quantified measure; and that, for some writers, this is a central problem facing capitalist processes of valorisation as it attempts to expropriate measurable value from immeasurable differences in subjectivity. There is, in other words, a preoccupation with the very same problem Marx outlined in his analysis of surplus value generation — the problem of profit — the main difference being that capital is confronted with purportedly immeasurable differences in subjectivity rather than homogenous masses of predefined labour processes. For writers such as Vercellone, this problem of profit manifests itself today as a fundamental tension between the social character of production and the private character of appropriation (2010). Here, I want to frame it as the issue of quantifying the qualitative social relations, beliefs and values that, referring back to the aforementioned notion of sympathetic cooperation, constitute the foundation basis of the productivity of life in general.

It seems pertinent to point out at this point that the issue of understanding emerging value-creation processes today has become a central preoccupation of recent sociological writings that, although not unified around an explicit concern for making sense of contemporary capitalist production, have highlighted the need for empirical lines of inquiry

into the conceptual importance of value (Bohm and Land, 2012; Ruckenstein, 2011). This is particularly the case with regard to recent sociological writings on the themes of measurement (Verran, 2012), metricization (De Angelis and Harvie, 2009; Kelly and Burrows, 2012), and role of values in the creation, reproduction and reinforcement of capital's 'value logic' (Skeggs, 2014). Indeed, it is particularly striking that the theme of measurement is one that a significant portion of the preceding coalesces around, especially when one considers the concepts discussed so far — abstraction, time, productivity and so on.

To sum up, the overall set of considerations that have emerged from the discussions contained within this chapter coalesce around a set of problems that the following investigation seeks to investigate through a case study of the video games industry. The core issue that have emerged from the theoretical trajectories contained within this and the previous chapter is that of the 'problem of profit' — that is, how and in what ways profit is sought — and the ways in which this has framed the socio-economic developments and changes in capitalistic dynamics that are evident today in the ways that, by way of example, new, digital and social media industries' commercial logics operate to attain value from freely given user-creativity and cooperation more generally. In the context of the analysis developed in this chapter, this overarching question of how profit is sought has resolved itself into two questions, with the former emerging out of the discussions contained within section one, and the latter deriving from section two. These questions are: (i) how is (qualitative) sociality subjected to (quantified) capitalistic valorisation?; and, (ii) can capital capture the value of social cooperation in general and, regardless of outcome, how will this be attempted? The first of these questions is centred around a consideration of what, in Marx's writings, can be summarised as the relations between the qualitative and quantitative dimensions of production and, furthermore, the ways in which the former is accounted for, abstracted and translated into economic value. Following on from this, the second of these questions is framed around a more direct consideration of the aforementioned primacy of sympathetic cooperation to the production of social life in general and, more specifically, the problem of the proposed incommensurability of said cooperation.

Thus, taken as whole, the overall preoccupation of the preceding, and the framing device for the following can be summarised thus: *how is (qualitative) sociality subjected to (quantified) capitalistic valorisation?*

## 3.3 — **Into the Social Factory: the Case of Labour and Value in the Video-Games Industry**

Much research on production in the video-games industry has tended to focus, in line with Cultural Studies research, upon the conditions of "working-life" within spheres of 'direct production' — that is, within companies and organisations formally geared towards video-game production (publishers, developers, designers etc.). Indeed, there is very little research that considers the broader patterning of production processes and value-creation that video-games industry encapsulates as a complex of developers, publishers, players, enthusiasts, and so on — all of whom can be understood as contributors to value of the industry as a whole.

The issue I wish to stress here, then, is that of how to make sense of production within the video games industry in light of the now widespread observation that, as a general configuration of productive processes, it is based not upon relations of formal *employment*, wage-labour, and the corporate and proprietary creation of commodities, but upon an accumulation of wealth that derives directly from the mass inputs – information, content, data, values, beliefs and so on – of a whole plethora of people ranging from player populations to hobbyists and enthusiasts. More specifically, how can these relations of production within the video-games industry be understood through the preceding theory that, at one and the same time, emphasises with the ways in which production is both founded upon qualitative social relations and organised, measured, and ultimately *monetised into* quantitive value? Put simply, what are the relations of the production and monetisation of labour and value within the video-games industry, and how can these be understood as part of a broader picture of contemporary socio-economic change that is sensitive to both enduring continuities, and substantial shifts in capitalist valorisation processes toward an all pervading social factory in which sympathetic cooperation and qualitative difference form the basis of production and creativity in general?

The specific issues I wish to turn to here, then, are those regarding the organisation, measurement and monetization of labour and perceived sources of value within the video-games industry and how such processes might be understood in terms of the ways in which they attempt to harness the cooperative capacities of developers, creators, players and so on. In order to address these issues, the following research questions have been employed as a base point for both data collection and analysis:

(v) "what have been the sources of labour and value in the video games industry throughout its historical and commercial development?"

(vi) "what are the sources of labour and value in the video games industry today, and how, if at all, have these changed over time?"

(vii) "what are, and have been, the means of valorisation in the modern video-games industry?"; and,

(viii) "how and in what ways is *value* being identified and valorised within the video-games industry today?"

In order to go about formulating an investigation into framed around these questions I have divided the case study into two distinct chapters — distinct both in terms of the subject matter, and the data and methods employed throughout the course of analysis. The first section constitutes an historical narrative of the video-games industry that seeks to outline key moments in its development as a commercial capitalist enterprise. Specific attention is paid at each "moment" in this history to the sources of the labour and value that constituted it at the given time under discussion. Moreover, there are a number of key moments on the video games industry where it becomes clear from the proceeding analysis that the value of the labour and creative processes involved in *producing video-games* was founded upon attempts to harness the creative and cooperative capacities of people who's actions and values appear more akin to a play ethic, rather than a work ethic. The primary sources of data for this chapter consist almost entirely of historical and documentary writings — both academic and journalistic — that consist of accounts and narratives provided by leading figures within the video-games industry and researchers of its trajectory and development.

The second section of this case study constitutes an attempt to interrogate and analyse a selection of key trends taking place within the video-games industry today with regards to the ways in which value is being recognised, sought out, and measured through various processes that combine both technical/knowledge developments and and appeals to ethical values; both of which are considered here as means of overcoming the problem of profit. The two main trends in the video-games industry that are interrogated are those of monetisation and measurement, with the first of these being a significantly complex process of appeals to ethical values regrading "the need to profit", and the second being particularly revealing of the ways in which the general sociality of players is becoming increasingly metricised and abstracted in the seeking out of new sources of value — that is, the ways in which the cooperative, relational and associative networks that constitute the everyday life of video-game players is becoming increasingly subjected to systems of quantitive measurement

and valuation. The sources of data utilised in this part of the investigation are numerous and varied. Firstly, over a three year period a number of industry-led bulletins and email lists were accessed and signed up to in order to collect a vast amounts of daily data on what was being discussed within the games industry between publishers, designers, investors and so on. As shall become clear, the issue of monetisation — how to make money, where from, and through what means — constituted a prolonged and highly debated issue of discussion over the three year period of data collection. The second section on measurement was based upon a compilation of data and resources obtained through publicly available research papers, company advertisements, and instruction manuals on how to design, implement, and profit from games analytics and metrics systems. Much of the data obtained for this phase of the research consisted of highly technical and specialised knowledge on how to create and utilise segmentation and automated transactional data on player usage and behaviours in-game to formulate strategies for monetising in-game content in accordance with the predicted desires of potential "customers". Overall, the research and data gathering process of this section was primarily treated as an exercise of immersion in the cycles and circuits of knowledge production and debate *within* the video games industry — the aim of which was to find instances where the valorisation processes of the industry were either brought into question and discussed through appeals to values and beliefs, or discussed in terms of their technical development.

# Section II

# The Present Investigation: Labour & Value in the Video-Games Industry

'We understand that the most valuable thing that each player possess is his time' — Victor Kislyi, Founder of Wargaming Public Co. Ltd. (quoted in Peterson, 2012: [online]).

# 4. A History of Labour and Value(s): The Video-Games Industry

Since the 1960s, video-gaming has rapidly proliferated from a minor hobbyist culture into one of the largest forms of commercial entertainment. Over this period of time, increasing numbers of people from around the globe have adopted and appropriated various forms of computerized gaming as an activity in their everyday lives, making it one of the most profitable and rapidly expanding culture industries of the 21st century. However, like all culture industries, gaming has a protracted history of development, which, as this chapter aims to demonstrate, is punctuated by significant changes in the configurations of production that have underpinned both its formation and commercial perpetuation. In order to present this history, the following chapter shall take the form of a literature-informed narrative concerning the economic and commercial development of computerized gaming from its origins in 1960s 'hacker culture' (Donovan, 2010; Kline *et al.*, 2003; Hjorth, 2011) to its present day condition as a digital entertainment industry that is underpinned by complex configurations of production and profit-accumulation strategies. The purpose here in framing the history of computerised gaming through a focus on its economic and commercial development into an entertainment industry is, following Kline *et al.*, to attempt something other than a 'chronology of technological marvels, or an anecdotal celebration of entrepreneurial smarts' (2003: 82).

As demonstrated by Hjorth (2011), games have many parallel and intertwining histories. The one to be outlined here, however, shall centre upon particular processes within both the industry and its audience cultures that, throughout the last few decades, have led to significant changes in the forms of labour through which computerised games are produced, commodified, and made commercially profitable on a perpetual basis. Although this is but one of many histories of games and gaming, it is nonetheless important for opening up a critical discussion of the forms and relations of productive work upon which digital play is both founded and made possible. Indeed, developments within this area over the last decade have led a variety of scholars to begin questioning core categories of analysis regarding the *modus operandi* of the gaming – and other – culture industries, especially with regard to the ways in which commercial products are (co-)constructed , (re)appropriated, and open-endedly built upon in ways not easily captured by prevailing understandings of industry production, labour processes, the commodity form, property ownership, and the ways in which these are related to the economic production of value (see for example: Banks and Deuze, 2009; Banks and Humphreys, 2008; Humphreys, 2005; Potts, Cunningham, Hartley and Ormerod, 2008;

Taylor, 2002; Yee, 2006). Thus, following this vein of inquiry into the *modus operandi* of contemporary culture industries, the following shall centre upon the historical trajectory of the computerised games industry and, in particular, the changes and transformations in its economic organisation that have occurred over the course of its commercial existence.

In order to provide a sense of chronology and impose a time-frame upon this narrative of transformations in the economic logic of the games industry I have organised this chapter into two main sections. The first section outlines the trajectory and development of production processes within what is *typically* understood as the games industry – that is, collectives of people formally employed to create game-related hardware and software. Beginning with its origins in 1960s 'hacking culture' (Donovan, 2010; Hjorth, 2011; Kline *et al.*, 2003), this trajectory follows the games industry's commercial development through the 70s, 80s and 90s, which, through multiple phases of change and crisis, has entailed a relatively continuous expansion and (re)organisation of its economic infrastructure into a multi-billion dollar industry of 'global production networks' (Johns, 2005; Kerr, 2006). Following on from this, the second section proceeds to discuss key developments that began to take place beyond the conventional boundaries of the games industry in the early 1990s, wherein player corpuses became subtly incorporated into processes of production and commercial value-creation. The most notable of these developments are 'modding' – the alteration of programmed game code by players of PC games that came to prominence in the 1990s (Postigo, 2003; Dyer-Witheford and de Peuter, 2009) – and the introduction of 'user-created content'(Donovan, 2010; Hjorth, 2011) as a key feature of game design architecture. Finally, the chapter concludes by opening up the question of how gaming audience cultures – and the ways in which they have become productive of commercial value – have been subjected to further monetisation processes since the turn of the millennium. Of particular note in this regard is the need for in-depth insight into the recent emergence of various forms of (often quasi-legal) monetised exchange practices within 'massively multiplayer online games' (MMOGs) and virtual worlds – often referred to as 'gold farming' or 'real-money trade' (RMT) (Dibbell, 2007; Dyer-Witheford and de Peuter, 2009; Heeks, 2010; Jin, 2006; Lehdonvirta, Wilska and Johnson, 2009) – and how these are developing in new directions within the wider digital economy today. As a final note, it is emphasised that an historical outline of the video-games industry and its economic organisation is of the utmost importance if one is to begin investigating the kinds of labour and value-creation processes that currently underpin its commercial success.

## 4.1 Genesis of a New Media Industry: Hackers, Workforces and the Value of Creativity

The rise of computerised games to the forefront of 21st century commercial entertainment has been both rapid and turbulent, with major changes, crises, and innovations occurring over the fifty year period since their inception in the early 1960s. The following shall go back to this decade and work through the 70s and 80s with a view to unpacking the ways in which the innovations of key actors and research groups became subject to processes of commercialization, venture capital speculation, and corporate organization. Indeed, the games industry – with its beginnings in the U.S. 'military-industrial complex' of Cold War research and playful 'hacker culture' (Kline, Dyer-Witheford and de Peuter, 2003: 84-108) – has a far from straightforward history of technological and commercial development that, when laid out, reveals a great deal about the lineage of its economic organization and, moreover, how this is reflected by key developments in the ways labour and processes of value-production have been profitably (re)configured.

Although a great deal has been written on the history of the games industry, much of this has tended to focus upon what can be loosely termed the 'genealogy of technological innovations' – that is to say, much of this literature emphasises the chronology and people associated with the invention of gaming *technologies* (see for example: Herz, 1997; Hjorth, 2011: 19-25; Kent, 2002; King, 2011; Poole, 2000, 2004). As Kerr surmises, this literature is useful to the extent that it organises and classifies an otherwise messy set of events into neat temporal boxes (2006); however, it provides little in the way of a critical understanding of the historical connections between the invention of gaming technologies and the wider contexts of cultural and economic change within which they emerged and became subject to commercial forces. In particular, scant attention has been paid to the historical interconnections between (a) the practices and innovations of key figures and organizations involved in the invention of gaming technologies, and (b) the establishment of commercial configurations of production and lines of profit-accumulation – in short, the interconnections between the formation of the games industry and broader developments within the organisational logic of capitalism over the latter half of the twentieth century[14]. An important theme for such an analysis to adopt, as Kline *et al.* make clear, is an interrogation of the ways in which the logic of capital has moulded, managed, and

14 The work of Kline, Dyer-Withford and de Peuter (2003), along with the more recent work of Dyer-Witheford and de Peuter (2009) is, to the best of the author's knowledge, a sole case in point here. However, the recent work of Donovan, entitled *Replay: The History of Video Games* (2010), provides brief glimpses of such an interconnecting analysis amongst what can best be described as a flurrying and disjointed glut of journalistically organised information.

appropriated the emergence of digital play and its possible futures (2003) through a potent dialectic of *financial venture and speculation* on the one hand, followed by *phases of economic development and (re)organisation* on the other — the result, of course, being what can only be described as *a relatively continual growth* of the games industry over the last half a century.

### 4.1.1 — *Origins: Hackers, Creativity, and Speculative Valuation*

Although there is some debate over what constituted the very first interactive game to be played electronically, it is generally agreed that the genesis years of this new medium were the decade between 1958 and 1968. Over the course of this decade there were a handful of key figures in the U.S. that – under the auspices of military-funded research centres such as the Massachusetts Institute of Technology (MIT) – developed what would become a family of related technological forms known collectively as the 'video-game' (Kline *et al.*, 2003). The first figure in this early history of the video-game had, prior to his forays into electronic entertainment, worked on the Manhattan Project manufacturing the timing switches that enabled nuclear bombs to be detonated at the correct moment. After the war, William Higinbotham[15] went to work at a U.S. government-funded research facility in Brookhaven National Laboratory (BNL) where, in 1958, he designed a tennis game – aptly named *Tennis for Two* – that was played on the screen of an oscilloscope; the game, however, did not garner much attention beyond its public display at the BNL and was dismantled the following year for its parts to be used in other projects (Donovan, 2010).

The second key instalment in the early years of video-games' lineage emerged between 1961 and 1962 with the creation of *Spacewar!* by a group of graduate students at MIT who referred to themselves as the Tech Model Railway Club (TMRC); this group was particularly well-known at the time for its 'playful programming spirit' that 'saw merit in creating anything that seemed like a fun idea regardless of its practical value' (Donovan, 2010: 10). This group epitomised what was referred to at the time as 'hackers'; "computer virtuosos" who enjoyed exploring the limits and possibilities of programmable computer systems, expounding credos such as "information wants to be free" and "always yield to the

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[15] It must be noted here, for the sake of fair treatment, that Higinbotham became disillusioned with what he had contributed to during his time on the Manhattan Project – the timing switches he had helped to manufacture were used to detonate the nuclear bombs above the cities of Hiroshima and Nagasaki (Donovan, 2010). Higonbotham went on to spend much of his post-war life campaigning against the diffusion of nuclear science by founding the 'nuclear non-proliferation group' known today as the Federation of American Scientists (FAS).

Hands-On Imperative" (Kline *et al.*, 2003). The innovation of *Spacewar!* by the TMRC was the result of what could best be described as a seemingly paradoxical intersection between this playful 'hacker ethic' and the Cold War research programme funded by the military; indeed, the MIT "Artificial Intelligence" (AI) department, of which the TMRC students were a part, was a prime benefactor of the Pentagon's Advanced Research Projects Agency (ARPA) – a prime example, as Kline *et al.* note, of how the 'military-industrial-academic complex' provided the financial and institutional soil upon which the games industry was conceived (2003). *Spacewar!*, emerging out of this context in 1962, was a radical innovation that – due to it incorporating navigation interface controls and a display that became a graphic input to the player (Kline *et al.*, 2003) – laid the foundational design of computerised gaming that would be built upon by hardware and software developers over the following decades. Another important feature of *Spacewar!* was that, as news of its creation spread among users of PDP-1 (the computer *Spacewar!* was programmed for), it disseminated out beyond the confines of MIT and into the already-booming culture of computing. However, although it became decidedly popular, Russell and the TMRC decided to not attempt a commercial effort since the PDP-1 machine needed to play *Spacewar!* cost around $120, 000 at the time, making it practically impossible to market (Donovan, 2010). Nevertheless, the playful efforts of the TMRC – alongside other 'hacker developments' of the 1960s – had demonstrated that computers could be seen and appropriated as a source of entertainment and diversion alongside "serious" applications, such as those being developed in line with the ARPA-funded Cold War research effort.

In 1966 another important figure in the history of computerised gaming invented what would go on to become a major commercial revelation. Ralph Baer, who, at the time was head of instrument design at New Hampshire-based military contractors Sanders Associates, set about developing a video game platform with a clear business plan for it to be 'a $19.95 game-playing device that would plug into a TV set' (Donovan, 2010: 12). This approach by Baer was important for the obvious reason that it attempted to lay the foundations for the commercialisation of this emerging new medium, something which he considered to be realisable through the appropriation of surplus television sets. After securing a small amount of funding from the Sanders Associates directors, Baer set about developing a prototype under the military-inspired codename 'Brown Box'. At the end of 1967, TelePrompter Corporation – a cable television company – showed an immediate interest in the prototype and entered into negotiations to buy the rights from Sanders Associates for its commercial production (Donovan, 2010). However, the negotiations rapidly broke down and the Brown Box, still classified as a military training device, was left to gather

dust until the start of the next decade. Nevertheless, Baer's invention had connected electronic gaming with the most pervasive mass media of the era – the television, which was already heavily commercialised and epitomised the mass consumption of media that games would soon join (Kline *et al.*, 2003).

The above summary of these key figures and their game innovations during the 1960s highlights more than just a series of technological developments that, in some miraculous fashion, would "inevitably" become the stuff of mass commercialisation. Rather, these key figures – Higinbotham, Russell, and Baer – exemplify the constitution of a wider mobilisation from which creative innovations in computing and network technologies emerged. Indeed, all three were part of 'the highly educated techno-scientific personnel recruited to prepare, directly or indirectly, for nuclear war with the Soviet Union' (Dyer-Witheford and de Peuter, 2009: 7). The forays these military-funded hackers and research personnel took into computerised entertainment were not, as their stories of dismantlement and "dust collection" attest, prefigured – or, better still, *predestined* – for mass commercialisation. However, as the following decade reveals, the idea externalised by these innovations – that computing technology could be utilised for play and divergence – was not bound to a life of bohemian counter-cultural circulation; it was to become appropriated by commercial forces as a new and vibrant source of profit that would demand the mobilisation of both formalised workforces and mass consumer markets. At the centre of these commercialising processes was a US company named Atari who, through the adoption of a "work-as-play" approach to the creative work of designing games and gaming hardware, configured the first large-scale labour force dedicated the profitable production of computerised play. This establishment, however, took place during a period of immense change in the ways in which economic production is both organised and made profitable on a perpetual basis. For the emerging games industry, these changes in economic organisation would come to entail a delicate balancing act between the established mantras of Fordist mass production on the one hand, and the playful, creative ethos underpinning the computer programming cultures from which games had come.

### 4.1.2 — *The Atari Era and its Demise: Fordist Labour in Crisis*

The 1970s were, as David Harvey (1989; 2007) and others suggests, a period of revolutionary developments in the world's social and economic history. Indeed, it is widely acknowledged that over this period there were a series of major cultural and economic changes, in which the appropriation and diffusion of ICTs played a central role. An important facet of these major

shifts – and in which the role of networked ICTs cannot be understated – was the increasing organisation of industry around what has been referred to by different commentators as 'informational' (Castells, 2000), 'knowledge' (Bell, 1973), or 'immaterial' (Hardt and Negri, 2000, 2004; Lazzarato, 1996) forms of production. These notions, although divergent in their details, point toward a general trend: that labour and employment within economies subject to these shifts have become increasingly organised around the production of non-material goods such as services, communications, knowledge and information. One way in which these developments have been summarised is as a shift from an industrial to a 'post-industrial' era (Bell, 1973); from economies based on Fordist mass production, to a 'post-Fordist' model of flexible employment structures and reflexive product cycles based increasingly around knowledge, signs, and services (Castells, 2000; Harvey, 1989; Kline *et al.*, 2003; Virno, 2004). Within this period the technologies of computerised play emerging out of the hacker/Cold War research culture in the previous decade came to prominence as a realised source of commercial profit that, placed within the broader cultural and economic shifts taking place, would come to epitomise the emerging logic of post-Fordist capitalism. Computerised play has come to epitomise, in particular, a reflexive product cycle in which social cooperation by members of the gaming community is harnessed to generate new developments in game design, and to generate and then capture additional value from the gaming product . Reflexivity in this context involves action by gamers being used to develop new forms of technology/improvements in game design and thereby to generate value. Reflection is not by companies designing the games per se - it is provided by the community. The net result is that the gaming industry is able to harness social cooperation by members of the gaming community to improve and refine its products and to make them more profitable, and to generate additional value.

Over the course of the 1970s, games developed along two main trajectories towards commercialisation that culminated in the establishment of the first multi-million games company – Atari. The first of these trajectories was the development of coin-operated machines that were placed within public arcades and bars across the U.S., which started with the reinvention of the TMRCs *Spacewar!* into a game called *Computer Space*. Funded by a company that primarily manufactured educational technologies for the U.S. Navy (Nutting Associates), Nolan Bushnell developed this game and placed it within various bars across the U.S. (Donovan, 2010). Initially, *Computer Space* garnered enough public attention for it to be a profitable success, although much of this was traceable to the high proportions of students that frequented the bars in which it was placed; interestingly, as Kline *et al.* point out, this was an important outcome of games being introduced into public space because it provided a test

bed for how the soon to develop industry would come to rely on a feedback loop of detailed information regarding customer preferences and demographics, all of which could be discerned from reports of the takings from specific machines (2003). This is an early example of social cooperation being relevant to gaming design and the generation of enhanced value. However, although *Computer Space* was heralded by some as the successful instalment of computerised games into public spaces, it was not seen by Nutting Associates as a groundbreaking development to further invest in; with this, Bushnell decided to form his own company, Syzygy Engineering (Donovan, 2010), which would later go on to become the behemoth of 1970s computer game capitalism known as Atari.

Around this time another major trajectory for the commercialization of gaming was developing: the home gaming console. Starting in 1971 with the purchase of Ralph Baer's 'Brown Box' by the consumer electronic company Magnavox, the home gaming console was quickly transformed from what was seen as a radical idea into a marketable product. Launched in August 1972, the 'Magnavox Odyssey' was the first commercial gaming device to be introduced into domestic homes, but it was not until Bushnell's Atari Electronics ventured into this market that computerised gaming would become a multi-billion dollar industry. Bushnell's initial venture with the arcade game *Computer Space* had sold too few units to attract major commercial investment. However, prior to the launch of the Magnavox Odyssey, Bushnell went to see a public demonstration of its wares at the Airport Marina in California where he sampled its capacity to simulate a simple tennis game in a similar vein to Higinbotham's *Tennis for Two* a decade previous (Donovan, 2010; Dyer-Withford and de Peuter, 2009). Inspired by this demonstration, Bushnell went on to produce the first majorly successful arcade game entitled *Pong*, which, following a momentously successful debut in a small collection of Californian bars, went on to become a global phenomenon as companies in Japan, France, and Italy began creating imitation versions under license from Atari (Donovan, 2010). The arcade trajectory of video games' commercialisation burgeoned rapidly after the success of *Pong*, and by 1974 an estimated 100,000 units were in operation across the U.S. generating an annual revenue of around $250 million (Donovan, 2010). *Pong*, however, was not uncontroversial in its success. It sparked a protracted intellectual property dispute with Magnavox – who believed the idea had come directly from the Odyssey home console – that would later be settled out of court in 1976 (Dyer-Withford and de Peuter, 2009). Nevertheless, by this time Atari had become the central player in games production, forming part of the broader Silicon Valley computer culture that emerged around this time as a crucial source of innovation and entrepreneurialism, which, as Dyer-Witheford and de Peuter point out, provided capital with a much needed supply of profit-accumulation strategies during a

period when traditional businesses, such as the automobile industry, were suffering an economic crisis (2009).

Atari's success was not straightforward. In 1975 the company began its venture into the home console market by turning *Pong* into a television gaming device. In order to manufacture this device on a scale large enough to meet projected consumer demand, Atari needed to invest in a bigger and more advanced production line. This expansion was eventually financed by a $20 million investment from venture capitalist Don Valentine, founder of Sequoia Capital (Donovan, 2010). With this investment Atari mobilised a workforce consisting of highly educated "computer creatives" to develop new and innovative gaming technologies on the one hand, and an assembly of routinized, minimum-wage workers to build arcade machines and consoles on the other. The former segment of this workforce, as Dyer-Witheford and de Peuter suggest, constituted part of the new stratum of techno-scientific creativity emerging out of Silicon Valley founded upon an ethos of freewheeling, unregimented, creative innovation (2009). By 1977, with its workforces mobilised and configured, Atari was fully operational as the dominant manufacturer of gaming technologies, creating hugely successful home consoles such as the Video Computer System (vcs) 2600 capable of displaying a wide variety of games stored on interchangeable cartridges (Kline *et al.*, 2003) – a key development that facilitated the growth of game programming as an independent employment market from console and hardware design.

Towards the end of the 1970s the industry was burgeoning rapidly, companies were expanding, and game development was increasingly becoming the subject of large corporate investment. Games 'were no longer just a technological novelty; they were becoming a cultural industry' (Kline *et al.*, 2003: 96). The labour force underpinning this period of rapid expansion was comprised of, on the one hand, minimum-wage assembly line workers who put together gaming hardware and, on the other hand, venerated software designers and programmers, who became increasingly important as game development came to place greater emphasis upon innovative play dynamics and "entertainment value". Salaries in the region of $50-60,000 were given to these irreplaceable creative workers responsible for developing the all-important "fun factor" of computerised entertainment (Kline *et al*, 2003). To fit the bohemian ways of these creative workers, companies such as Atari promoted a fusion between corporate capitalism and hacker techno-counterculture within the employment environment; this manifested itself as a "play-as-work", or "work-as-play" ethos characterised by a renowned lack of bureaucracy and high degrees of autonomy for programmers and developers to create what *they wanted* (Dyer-Witheford and de Peuter, 2009) – such was the ideological underpinning of this workforce and its managed mobilisation into

a highly creative source of profitable production. The mobilisation of this workforce and the ethos that underpinned it exemplified the way in which the creative computer culture emerging out of Silicon Valley in the late 1970s was "put to work" by venture capitalist forces as a vibrant, flexible, and potentially fecund source of innovation.

However, this productive admixture of "work-as-play" and corporate business was not without its problems, and this became manifest in developments within the division of game labour in the late 1970s and early 80s when giant media corporations began to wade into the market. In 1978, Atari – who needed major cash investment to manufacture their new home console – were sold to the media corporation Warner Communications for $28 million, with Bushnell personally making $15 million in the deal (Kline *et al.*, 2003). Following this take over, it became apparent to Warner Communications that Bushnell's lack of discipline over his creative workforce would need correction if Atari was going to run a tight industrial regime of cost-benefit practices and calculatedly managed production. Bushnell was dismissed and replaced as manager by a Warner-installed executive with a background in textile manufacture (Dyer-Witheford and de Peuter, 2009). Key programmers, unhappy with the new regime antithetical to their "work-as-play" ethos, expressed their discontent by defecting to start their own game companies such as Activision in 1979. Activision primarily developed game cartridges to play on Atari's hardware and, since Atari was manufacturing this hardware at a loss and making profits through sales of software alone, it was threatened by this strategy. Although Activision became the perpetual subject of Atari legal action, the company was a huge success and signalled the establishment of a whole new division within the structure of the computer games industry known as "third-party" game development (Dyer-Witheford and de Peuter, 2009), which, importantly, marked the separation of console manufacture from game software development. This as Kline *et al.* note, constituted nothing less than the formation of a new digital labour force who – with increasing levels of public attention, the publication of treatise on game design, and incredible commercial success – demonstrated the 'growing confidence and sophistication of multimedia artists who were coming to recognise their essential role in a new and booming cultural industry' (2003: 99).

This success, however, inevitably attracted the attention of many business giants and corporations looking to cash-in on this new market of computer creativity and soaring profits. By 1982 the worldwide home sales of the console market were about $3 billion, with the arcade business grossing around $8 billion (Kline *et al.*, 2003). In the U.S., still the dominant player in the emerging global picture of the games industry, Atari controlled around 80 per cent of the industry (Kline *et al.*, 1983). Nevertheless, the consequence of the

industry's success was a flurry of corporate repositioning to take advantage of this emerging market. An increasingly desperate situation started to emerge in which:

> 'Bootlegged software – an ineradicable legacy of hacker culture – was rampant, quality control nonexistent, and the mounting involvement of Hollywood studios and giant toy companies resulted in a series of embarrassing failures, the most notorious being the bathetic *ET* video game based on the film by Steven Spielberg' (Dyer-Witheford and de Peuter, 2009: 13).

Maintaining the pace of innovation was difficult for companies such as Atari who – through appointing project managers from military and industrial environments whose imposed regimes were completely at odds with the "play-as-work" ethic of their employees – failed to come up with a coherent strategy for managing the creativity of game designers (Kline *et al.*, 2003). Atari, now owned by Warner, refused to give their designers royalties or recognition for the games they created, which was seen by many as 'a clear move to reduce the bargaining power of a workforce whose strange technical powers its managers could barely comprehend' (Dyer-Witheford and de Peuter, 2009: 10). This situation rapidly deteriorated into an imbroglio of employee discontent, rushed game development, overproduction, and massive consumer indifference as the content of newly manufactured games became as repetitive and monotonous as the minimum-wage, assembly-line labour that churned them out. As 'the founded, rushed product-development cycles became the norm amidst a digital gold rush atmosphere' (Kline *et al.*, 2003: 104), new games began to flood the market in a constant stream of unimaginative reconstitutions of previous releases. In 1983 this situation came to a head when Atari failed to reach its projected profits and its stock plummeted. The speed of economic decline was astonishing as Atari's sales of $2 billion in 1982 dropped 40 per cent by the following year, reporting a total loss of around $539 million; this situation worsened towards crisis point 'because companies had leveraged capital in anticipation of constantly escalating sales' (Kline *el al.*, 2003: 105), only to find that the speed of growth prior to 1982 was being completely outstripped by the pace of decline.

By 1984 revenues had plummeted to half that of 1982 and, with this, the large media corporations who had invested venture capital in the gaming market began to withdraw; Warner, the corporate owners of Atari, laid off several thousand workers before selling off the company in what was one of the most full-blown disasters of recent business industry – a

clear demonstration of the volatility of the emerging digital economy (Dyer-Witheford and de Peuter, 2009) that was being built upon a formula of perpetual commodity-innovation fuelled by the profitable, yet seemingly uncontainable mobilisation of workforces whose valuable creativity was founded upon the autonomy to engage in playful experimentation. In many ways the games industry pioneered techniques for managing perpetual-innovation markets, but although Atari and its imitators had profitably captured the playful genius of creative computer hackers required for such a market, 'it failed to find the organizational and disciplinary forms to contain it: that discovery would have to come from somewhere else' (Dyer-Witheford and de Peuter, 2009: 14).

As can be seen from the above, the capacities and creativity of computer hackers was a foundational source of value to the commercial formation and profitability of Atari. It was, to refer back to the theoretical trajectories developed in chapter 3, their ethic and beliefs in playful, non-regimented creativity and cooperation that was the source of the inspiration required to creative unique and, as Terranova (2014) puts it, *new* ideas about the content and design of video games as a form of entertainment. This is a clear and perhaps early example of the ways in which the core characteristics of sympathetic cooperation — as shared beliefs, desires and capacities to create and recreate the *new* and *novel* — became a source of abstract economic value; the main problem for Atari, was how to bring this creativity under the control of a regimented system of measured productivity. This innovation in the valorisation logic of the video games industry would be revisited in later developments by a Japanese company called Nintendo.

### 4.1.3 — *Re-engineered in Japan: the Pioneering of a Post-Fordist Industry*

The mid-1980s saw the rise of the company that would achieve not only a complete revival of the games industry from its crash in 1983, but reconfigure it into one of the largest transnational cultural industries of the late twentieth century. This revival was not achieved from inside the U.S., but came from Japan. Nintendo – originally a Japanese toy firm founded in 1889 – had, by 1985, already become a major player in computer games market of its home country, mostly due to the hugely successful release of the domestic system known as the Family Computer, or Famicom for short (Donovan, 2010). The design of this home game system reflected the development of a novel repertoire of business strategies that Hiroshi Yamauchi, the chairman of Nintendo, employed in order to revolutionise the ways in which the games industry was both productively organised and brought under corporate control.

The Famicom, later released in the U.S. and Europe as the Nintendo Entertainment System (NES), contained what was effectively a "lock-and-key" device consisting of two patented chips – one in the console hardware and the other embedded within the interchangeable game cartridges – that were encoded using a copyrighted program known as 'IONES'; this made it impossible to play games on the Famicom and NES that had not been subjected to Nintendo's approval processes (Kline *et al.*, 2003). This technology effectively enabled Nintendo to control production within the third-party software development division of the industry that had emerged in response to Atari's Warner-implemented regime a few years previous. Instead of trying to expand rapidly to meet consumer demand, Nintendo utilised this "lock-and-key" technology as a means to open up negotiations with third-party developers over the rights to make games for the Famicom and NES. The resulting licensee contracts operated heavily in Nintendo's favour who, in return for allowing for third-party developers to make games for their widely dispersed consoles, demanded money upfront to manufacture the cartridges, a percentage of profits from sales, and the right to decline the release of any game based upon its newly-imposed evaluation methods (Donoavan, 2010). This business strategy for controllably managing games production for their hardware proved to be highly profitable for Yamauchi's Nintendo; indeed, it effectively turned the games industry into a client state, whose third-party licensees were the willing subjects of Nintendo's managerial criteria.

A key lesson that Nintendo's Yamauchi had taken from Atari's dramatic crash was that, in order to ensure competitive success, one must not only manufacture a recognisably attractive hardware system; the same must also be the case for the games it runs, and since the decoupling of these two aspects of computer game production in the late 1970s, the profit logic of the industry has been in a state of mutation. Nintendo's implementation of the aforementioned 'lock-and-key licensee' method was a clear reflection of Yamauchi's response to these relations of game production, which he saw as being in need of tighter and more stringent corporate control if Atari's failings were not to be repeated. Profits, according to Nintendo's new business strategy, were not to be made from selling consoles (hardware); it was more lucrative to generate them through the sales of a continuous stream of gaming software that, in order to prevent overproduction and market saturation could be subjected to calculated management strategies. In line with these lessons gleaned from what was by now gaming industry history, Nintendo adopted the strategy of establishing a large customer base – through initial console sales – that, in turn, attracted the services of third-party developers whose games encourage further console sales; a strategy that Kline *et al.* describe as building the customer base in a spiral of 'increasing returns' (2003).

By 1987, Nintendo had successfully revived the games industry, establishing itself as the dominant player in both the Japanese and U.S. whilst also beginning its foray into Europe. Game publishers in both countries were now subject to the controlling measures of one company alone who, with licenses to develop games for their NES console so high in demand, were able to impose remarkably rigid conditions on licensees (Kline *et al.*, 2003). The stipulations of these Nintendo licenses required all developers to submit their creations for its seal of approval, set a limit upon the number of games a licensee could annually produce, prohibited them from making games for other hardware systems for a two year period, outlined the royalties figures in percentage of sale (amounting to around five dollars per game cartridge), and demanded that a minimum order of ten thousand cartridges be bought from Nintendo and paid for in advance (Kline *et al.*, 2003). According to Donovan, '[f]ew game publishers minded. Most were happy to trade creative and business freedom for the huge profits to be made from NES games' (2010: 170). This system yielded unparalleled profits in the history of the games industry whilst also bestowing Nintendo with the single-handed ability – through direct management of the relations of game hardware and software production – to control the supply, variety, and saturation of the increasingly global market it was carving out of the rubble left by Atari. Nintendo had swathes of creative software designers making games for its hardware under license all across the U.S., Japan, and Europe. One particularly successful NES licensee company was Rare, a UK, Leicestershire-based developer whose titles sold millions in the U.S., making them one of the most successful game designers of the late 1980s (Donovan, 2010). Nintendo's strategic approach to the organization of new game development and licensing also anticipated the need of ludic capitalism to generate value out of the most intimate yet socially focused aspects of subjectivity — that is, the creative capacities of cooperation and collaboration. This anticipated a number of more recent developments, as we shall see.

The release of *Super Mario Bros 3* in 1990 proved to be the commercial culmination of Nintendo's reconfiguration of the games industry onto a global scale. Following a meticulous pre-publicity campaign that included both a feature-length film entitled *The Wizard* and a commercial deal with McDonald's to offer Mario Happy Meals, *Super Mario Bros 3* sold more than 17 million copies worldwide, generating around $550 million and marking Nintendo's rise from a Japanese toy maker to a global video game giant (Donovan, 2010). Shigeru Miyamoto, the designer of *Super Mario Bros 3*, became a world-famous celebrity as Nintendo publicly celebrated his talent and creativity – another clear demonstration that Nintendo had learned from the mistakes of Warner, in this case their denial of name recognition or status for their game makers. Nintendo had reconfigured the games industry onto a global level,

established a licensing hardware-software business blueprint that would be carried over for every subsequent console system, and implemented an entirely new set of strategies for managing production and profit-accumulation, through which it achieved what can only be described as monopolistic market control. It is somewhat ironic, as Dyer-Withford and de Peuter point out, that 'games were rescued not by the military-industrial complex from whence they had sprung but by the victims of its atomic bomb' (2009: 14). Nevertheless, of importance here is that Nintendo had carved out a much more sophisticated model for managing the playful labour of game designers by (a) acknowledging the value of their creativity with the implementation of a business model that emphasised profit through software (game) sales, and (b) paying much greater attention to quality control and market management – reflected in the technological "lock" inserted into Nintendo-approved games cartridges.

At this point it becomes clear that the strategies employed by Nintendo in their treatment of the creative capacities of their game designers paid particularly close attention to the value these playful workers placed upon their autonomy *as creators of new and novel ideas*. As such, these creators of the new and novel were not subjected to strict regimes of productivity measurement and control; rather, Nintendo realised the need to foster and retain this value of its creative game designers, whose talents and skills derived not from a perfection of a predefined labour process, but from the most intimate aspects of their subjectivity — their imaginations.

Thus, the solutions needed to the hard lessons learned by Atari regarding the pace, volatility, and unpredictable nature of the games industry and its playful contingent of creative labourers were engineered by a company that – through the implementation of carefully calculated forms of financial control and production management – moulded computerised gaming into a transnational cultural industry that, to a large extent, is still characterised by 'Global Production Networks' (GPNs) (Johns, 2005) based upon the hardware/third-party software division of labour established by Nintendo's licensee model (Kerr, 2006). Indeed, Johns' relatively recent research provides evidence to suggest that while console hardware production is organised by manufacturers using truly global network strategies, the development of software is far more geographically bounded – primarily within the three major economic regions of Western Europe, North America, and the Asia Pacific (2005).

Within these formally defined boundaries of the games industry' GPNs the "work-as-play" ethic is still very much in place as an ideological foundation of game labour, or

'gamework' (Deuze, Martin and Allen, 2007). Moreover, a growing collection of academic literature and research has emerged over the last few years that attempts to address issues regarding the conditions, relations, and (professional) identities bound up with forms of labour – especially software development – within the formal remit of the games industry (see for example: de Peuter and Dyer-Witheford, 2005; Deuze *et al.*, 2007; Dyer-Witheford and de Peuter, 2006; Martin and Deuze, 2009).

However, it is to a different set of developments – emerging in the 1990s – that this thematic history shall now turn its attention. The 1990s saw the computer games industry develop in a variety of directions. The predominance of Nintendo within the global market it established was challenged by the Japan-based company Sega, sparking what some commentators have referred to as the Sega-Nintendo 'console wars', symbolically represented by their rival mascots Sonic and Mario respectively (Dyer-Witheford and de Peuter, 2009; Kline *et al.*, 2003). This "war" between the competing corporations of digital play in the early 1990s was primarily acted out in the fields of intensified marketing and ever quickening technological innovation in the form of "races" to release the next most high-powered console, measured in terms of their 8-, 16-, 32-, and 64-bit capabilities (Kline *et al.*, 2003). throughout this corporate war for market dominance, computerised gaming developed at a breakneck pace both in terms of technological (console) innovation and the speed at which products cycled from one iteration to the next.

### 4.2 Instances of 'Playbour Power': Players Productively Mobilised

Concomitant with the rapid changes in the home console market was the development of another direction for the video-games industry. This was the speculative evaluation of the home console's 1960s military-industrial relative, the personal computer (PC), as a potential platform for a relatively "new" and innovative commercial method for delivering game content and fostering gaming communities. As Kline *et al.* (2003) note, the lineage of the home consoles produced by Atari, Nintendo, and Sega is shared by the personal computer; both emerged out of U.S. hacker culture in the 1960s and were commercially converted in the 1970s from the military-industrial mainframe into household mediums — in essence, the commercial consoles of the 70s, 80s, and 90s were simplified versions of PCs, albeit with their entire functionality dedicated to the single capacity of gaming. PC gaming, although existent throughout the 80s, became an alluring prospect for major commercial investment in the mid-90s with the increasing popularity and diffusion of the Internet, which, since around

1987 had doubled in size year-in-year out — a process which was further accelerated with the establishment of the World Wide Web in the early 90s.

The key trends throughout the 1990s to be outlined here orbit predominantly around the establishment of the Internet-enabled PC as a central conduit for the dissemination and networked connectivity of video-gaming culture. From around 1989 to the mid-90s arcade gaming declined in popularity with the introduction of mobile consoles — notably the Nintendo gameboy and SEGA gamegear — and the establishment of what Hjorth (2011) refers to as the fourth generation of gaming technology. In these years there was a marked turn towards the PC as a major platform for the commercial delivery — and, as we shall seee, *cultivation* — of game content. Two important and interrelated developments for the PC in this period were the commercial success of games delivered by means of CD-ROM hardware and a rise in popularity of various forms of multiplayer games hosted on the Internet — generally referred to as 'online games'. Thus, throughout the early to mid-90s PC gaming transformed from a marginal preoccupation of hobbyists into a prime target for corporate investment, partly due to the widespread belief that the Internet held the potential for establishing industry revenue models that would not rely solely upon the sale of hardware in high-street shops, making it possible for gaming to be based around forms of subscription or other rent-based methods of profit-accumulation — something which Rifkin (2000) has identified as a generally observable process in post-Fordist (he employs the prefix *hyper-*) capitalism, where everything becomes a "paid for" experience. This belief in the Internet as a commercially viable method for distributing PC-games was further cemented by the realisation that it could also be an important meeting place for masses of gaming communities (Kline *et al.*, 2003); this, it was hoped, would "empower" gamers to share knowledge of their experiences and issues, build support and guidance systems for other players, and create additional content for established game franchises — all of which would generate a whole host of ancillary gaming cultures and, in the process, add considerable *value* and longevity to successful products of the industry.

The commercial establishment of online gaming in the 1990s brought in its train a whole range of re-configurative developments that changed the ways in which games and their content were (re)produced and moulded into profitable sites of popular culture. One of the central threads tying these re-configurative developments together is the various ways in which online player-audiences were mobilised into productive communities — that is, in a variety of ways, gamers were subtly mobilised into producers of the games they played,

becoming directly involved in what might be described as a processes of continuous valorisation and profit-accumulation. These developments have been summarised by some scholars as the emergence of a profitably productive fusion between play and labour, encapsulated by the neologism 'playbour' (Hjorth, 2011; Kückluch, 2006). For Hjorth (2011), however, the concept of playbour refers to a general trend that extends far beyond the activities of video-game players to the types of labour that users of many varieties of new media are performing as part of broader shifts in consumption/production paradigms. An important aspect of these broader shifts in production/consumption that playbour has emerged from is the development of what is often referred to in the business and marketing world as "Web 2.0" — the increasing prevalence of user-created and user-generated content (UCC and UGC respectively) architectures on the Internet. The ways in which these architectures can be described as encapsulating a fusion between play and labour (playbour) that is productive of economic value for businesses is described by Tim O'Reilly, who suggests that Web 2.0 is 'a platform in which customers play an active role in building one's business' (2004, cited in Hjorth, 2011: 50). But is it possible to probe a little deeper from the surface-level conceptualisations of labour and production/consumption as general terms to describe a process whereby *productivity* — of some form or another — is becoming indistinguishable from *non-productivity*. How, exactly, might we attempt to delve into the political economic complexity of such processes through a focus upon, say, labour, value and valorisation?

Nevertheless, for the purposes of providing context to the following, it is of crucial importance here to mention that these developments in the so-called production/consumption architecture of new media and the rise of Web 2.0 are inseparable from the emergence and uptake of online video-gaming during the 1990s, which, as the following shall detail, was marked by the subtle mobilisation of online player audiences into productive communities reminiscent of what Marx (1983) described in his analysis of large-scale industry as 'labour-power' — that is, the collective capacities and socially co-operative properties of workforces that is free and or no cost to capital. As was discussed in chapter 3, Marx considered the cooperative capacities of labour-power to be the foundation stone of productivity upon which the generation of surplus value is built, and that this is most clearly seen when there is a great quantity of labourers simultaneously cooperating together; as we shall see in the following, the mobilisation of players' creative and cooperative capacities constitutes, in many ways, such a mass mobilisation of cooperative labour-power. Three particular developments stand out as exemplary manifestations of this trend towards the incorporation of players' freely-given, collective creativity and social cooperation into the

video-games industry's processes of valorisation: 'modding' (Kücklich, 2005; Nieborg and van der Graaf, 2008; Postigo, 2003), 'Massively Multiplayer Online Games' (MMOGs) (Dyer-Witheford and de Peuter, 2009; Taylor, 2006a), and gaming architecture based around UCC (Donovan, 2010; Hjorth, 2011).

### 4.2.1 — *The Value of Modders: Intimations of Post-Fordist 'Playbour-Power'*

One of the first notable instances of the trend toward players and fans of video-games becoming directly involved in processes of production was the emergence of 'modding' in the 1990s — an activity whereby players of PC games would modify programmed game code in order to change character appearances, add weapons, create new scenarios, and sometimes build whole new games out of commercial software. However, although modding is a particularly notable instance here, other examples of fan groups adding commercial value to the games around which they formed were also emerging during this period. For example, fans of popular games such as *Doom* and *Quake* — both released in the mid-90s — contributed content to related websites that served as ready-made resources and "tech-support" guides for other players, creating extensive fan-based support networks that, by virtue of their adding considerably to the commercial value of developers' games, were and continue to be integral components of the video-games industry.

As an initial indication of conceptualisation, the development of productive fan networks such as this constitutes a major part of the broader mobilisation of video-gamers' creative and *playful* energies into what — through Marx's (1973) notion of 'labour-power' — might be tentatively considered 'playbour-power'. The point of contact here between Marx's notion of labour-power as the collective properties of co-operating labourers, and this notion of 'play-labourers' is that in both cases there is an underlying emphasis on how their creative and productive efforts, when taken as a whole, are free — capital pays nothing for them. In this sense, it may be worthwhile to consider the role that *play*, as an ethic expounding freeform-creativity, has become a key resource for the mobilisation labour-*powers* in post-Fordist capitalism — that is, for the mass mobilisation of the cooperative capacities of 'playbour-power'. The aforementioned example of modding provides an illustrative case in point through which to discuss this broader mobilisation of playbour-power within gaming audience cultures; a shift in which video-game companies came to recognise, reflect upon, and act in accordance with the potential value of player networks and fan communities as sources of innovation and profit both freely produced and, importantly, sitting outside the formal employment boundaries of design studios and waged-labour development — a

particularly salient feature of post-Fordist capitalism as it is understood by Gorz (1999), which he saw as characterised by a shift away from the direct negotiation between labour and capital over productive *time* in the form of the *wage*.

As previously mentioned, modding refers to a general set of practices whereby PC gamers would add to or change aspects of a given game by altering its programmed code – sometimes even developing an entirely new game out of commercial software – and then distribute this for free on the internet. Although modding is commonly considered to have begun with the 1983 development of a game entitled *Castle Smurfenstein* – an adaptation of id Software's (henceforth id) renowned Nazi-hunting game *Castle Wolfenstein* – it did not become widely popularised until the mid-to-late 1990s when id, taking account of previous software altering demonstrations by fans, published the source code of their hugely successful Doom, enabling players to create, edit and (re)develop their own levels and in-game scenarios (Kücklich, 2005). This move proved to be a huge success for id in a variety of ways, two of which stand out here as particularly important factors when considering the changes taking place during this period within the games industry and its relation to its audience cultures. Firstly, a rapid proliferation of player-created mods for *Doom* helped to generate a near-inexhaustable interest in the original, commercially-sold software required to run them on home PCs. This, in sum, translated into larger than anticipated sales figure for id's original game which, by extension, generated significant profit margins. The second important benefit for id was the creation of 'a voluntary pool of production talent, which its recruiters soon learned to tap by checking the work of admired modders and phoning them with job offers' (Dyer-Witheford and de Peuter, 2009: 25). This creation of a voluntary pool of production talent for id is an important point here because, in effect, it provided the company with a particularly focused, yet very low-cost model for sourcing potential employees from a vast corpus engaged in the kinds of innovative design work that has underpinned the industry throughout its existence. Put simply, these two outcomes highlight how id, by allowing their player-audiences to modify their product, established a means of making their games both hugely popular and generative of valuable productivity on the part of the communities that engaged in this process of modification; at one and the same time, id Software managed to make *Doom* both commercially profitable and the locus of a voluntary, yet creative – even playful – form of productivity.

The success of id Software's experiment with modding was followed by a host of other companies, who began to design their games with in-built capabilities for players to make additions and/or alterations to the content of their games. One particular company that played a pivotal role in cultivating this as an important component of their business strategy

was Valve Software (henceforth Valve), founded by former Microsoft programmers Gabe Newell and Mike Harrington. An important development in modding arose when Valve released their successful title *Half-Life*, a first-person perspective shooting game that, when purchased, allowed willing players and amateur developers to access the games core software engine along with a range of free tools provided by the game's original developers (Nieborg and van der Graaf, 2008). Perhaps one of the most widely cited examples of modding's rise to prominence as part of the games industry is the modification of Valve's successful *Half-Life* into the even more successful game *Counter-Strike* in 1999 by a group of player-developers led by computer scientist student Minh "Gooseman" Le (Kücklich, 2005). *Counter-Strike* was nothing short of a complete conversion – a 'total conversion' in modding parlance – of the single-player *Half-Life* into a fast-paced multiplayer game based around a counter terrorism theme in which two opposing teams aim to eliminate one another. The popularity of this mod quickly surpassed that of *Half-Life* itself and gamers reportedly started to buy Valve's original game solely in order to play the *Counter-Strike* adaptation (Nieborg and van der Graaf, 2008). This proved to be very profitable for Valve, who responded by offering Minh Le and his modding team employment at the company as professional developers; Le soon sold *Counter-Strike's* already-valuable intellectual property rights directly to Valve (Kücklich, 2005; Nieborg and van der Graaf, 2008). By 2000 Valve began publishing *Counter-Strike* as a commercial game franchise; today it is a well-established Valve brand with various iterations and is one of the most highly played online first-person shooter games in existence (Nieborg and van der Graaf, 2008). The importance of this example cannot be understated when considering the role freely given, audience-innovated mods such as *Counter-Strike* have contributed to commercial games companies. For developers such as Valve, *Counter-Strike* is an example of how player-communities have been encouraged to take an active role in building a successful franchise that, for those in possession of the intellectual property rights, generates significant revenue even a decade after its inception (Nieborg and van der Graaf, 2008). Indeed, for companies such as Valve and id, the cultivation of modding communities has proved to be an incredibly worthwhile and cost-effective business strategy.

The above examples of modding form part of what was previously referred to as a broader mobilisation of gaming audiences into productive playbour forces during the 1990s. However, it is also important here to point out how these developments are emblematic of the social and economic changes summarised by social theorists as the transition toward post-Fordism as a hegemonic mode of production. An important point for consideration here is presented by Postigo during his examination of modding as an exemplar of post-industrial, or post-Fordist transitions from leisure to work:

> 'As one looks over the immense amount of work that generating this content entails, one cannot help but wonder in what other ways all of this skilled labour might be contributing to the value of the games being modded … and what broad social forces position the work of these hobbyists for indirect or direct exploitation' (Postigo, 2003: 596).

In other words, what role has modding played in the games industry and in what ways does it constitute the mobilisation of a labour force that is both freely given by hobbyists and productive of economic value for the commercial companies cultivating it. In short, how does one make political economic sense of the emergence and cultivation of modding by the games industry? In order to unpack this issue it is necessary to briefly outline some details regarding the control measures and economic apparatuses that the games industry employs to regulate and harness the activities of modders.

An important tool for many of the games companies that have sought to cultivate modding communities over the last decade has been the construction of very detailed and restricting end-user license agreements (EULAs) that players have to agree to when installing their games. A useful example here is the EULA attached to Valve's *Half-Life*, which stipulates a granting of a non-exclusive, royalty-free, terminable, worldwide, non-transferrable license to: (a) use and modify the 'software development kit' in source code form for the sole purpose of developing a mod; and (b) reproduce and distribute the mod in object code form solely to end-users of *Half-Life* without charge (Kücklich, 2005). This EULA effectively enables the commercial game developers to retain intellectual property rights to all mods created using their original game software whilst also preventing modders themselves from selling what they have created. However, the benefits for commercial companies like Valve in possession of these legal rights are multiple. Firstly, they do not have invest in professional wage-labour in order to create and establish a successful game and its brand; as the *Counter-Strike* case demonstrates, this was done for Valve by the player-creators of the game (Kücklich, 2005). Secondly, successful mods extend the shelf-life of the original game software from which they are created by virtue of the fact that this is required in order to run them on home PCs – a fact publicly acknowledged by Valve owner Gabe Newell (Kücklich, 2005). Thirdly, the activity of modders has served – and continues to serve – as an important source of creative innovation for commercial game companies with the capabilities of controllably appropriating it; as Kücklich notes, the creativity of modders provides

professional developers with a huge "test-bed" for creating new and innovative ideas that would otherwise prove difficult to implement within increasingly high-risk commercial games markets (2005). Furthermore, the creativity of modders is freely given and therefore costs very little for commercial game companies to (a) expropriate as a valuable source of labour and (b) search through as a recruiting pool for potential employees with desired talents and skills. As such, modders can add considerable value to already established commercial games, build an entirely new brand, and serve as a potential labour market (Nieborg and van der Graaf, 2008) – all of which costs very little for game development companies to cultivate and harness. However, while it is very difficult to estimate the exact monetary value of these benefits from modding for commercial game companies, it is nonetheless clear from success of games such as *Counter-Strike* and *Doom* that modding has become an important economic factor in the computerised games industry (Kücklich, 2005).

This mobilisation of what is effectively a free labour force has been conceptualised by Postigo through a lens of social theory pertaining to the rise of post-industrialism and post-Fordist modes of production. For Postigo, modders form part of a more general process whereby hobbyists on the Internet generate goods for free within a perceived leisure context, adding content and making up networks of flexible labour forces that form a principle productive force of the digital economy (2003, 2007). What results in the case of modding is 'the circumvention of the initial investment risk for the commercial developers as the development work is transferred to the fan base where costs are negligble' (Postigo, 2003: 597). Importantly, however, this Internet-based form of labour exploitation is intricately interlaced with an ideology of playful creativity. Indeed, as Nieborg and van der Graaf point out in relation to Valve, the reasons they (Valve) have been able to attract a relatively continuous stream of modders to their products is by rhetorically framing modding as an extension play in company documents, press releases, and websites dedicated to company-player communications (2008). This framing of modding as an extension of playful activities by Valve highlights the way in which the games industry has carefully managed and projected an image of itself that emphasises its dedication to producing enjoyable, player-engaging games whilst marginalising its dedication to profit-accumulation (Kücklich, 2005). It is precisely this ideological framing of modding as an form of computer *play* that, when considered alongside it also being an important contributing factor towards the economic success of commercial game companies, that Kücklich adopts the neologism playbour in order to place it within the political economy of the games industry and computerised gaming culture(s) in general (2005).

In terms of historical narrative, this emergence of modding during the 1990s constitutes one of the first well-documented and conceptualised mobilisations of playbour-power within the games industry. Placing this within the broader context of social and economic shifts associated with the development of post-Fodism, Postigo demonstrates how Internet-based activities such as modding, forming and supporting communities, and pursuing development hobbies represent an emerging form labour that can be harnessed and exploited as a source of economic value (2003, 2007). A key aspect of post-Fordism that distinguishes it from a Fordist mode of mass produced, invariant consumer goods is the perpetual maintenance of flexible, responsive, and risk-reducing modes of (re)production and innovation. Within a post-Fordist economy '[g]oods such as software, computers and other technologies, whose production is driven by rapid and continuous innovation and short market-life, have become staples of new consumption as production patterns have shifted toward … knowledge goods and services' (Postigo, 2003). Perpetual innovation is a central component of this economic logic and, above all else, this is what modding and the emergence of playbour more generally has provided to commercial companies such as Valve who, rather than investing heavily in professionally-waged development, can also rely on large corpuses of free labourers dedicating their playful creativity to producing content at once appropriable by those companies in possession of the correct intellectual property rights. Modding, then, as an integral component of the games industry emerging to prominence in the 1990s, constitutes an archetypal example of the complex ways in which cultural forms and leisure practices environing on the Internet more generally are valorised and made profitable through subtle mechanisms (such as intellectual property) that harness their economic value to the benefit of commercial companies and businesses. As Kücklich notes, modding illustrates how, in a post-Fordist regime of perpetual innovation and the constant desire for risk-minimising production strategies, commercial game companies benefit from the perception that *everything* to do with computerised games is a form of play and therefore a voluntary, non-profit-oriented activity. Nevertheless, modding was but the first important mobilisation of players into producers to the commercial benefit of the games industry; other, larger mobilisations of playbour emerged during the late 1990s that enabled games companies to extract economic value from their audiences creatively "playing" with their commercially-owned products.

### 4.2.2 — *Online "Worlds", Farms of Gold: Massively Multiplayer Playbour-Power*

Alongside the emergence of modding was the larger, more nuanced mobilisation of playbour in the form of MMOGs during the late 1990s and into the new millennium. Developing out of text-based multiplayer games – referred to as multi-user dungeons (MUDs) – that were hosted on propriety networks such as AOL, Compuserve, or GEnie in the 1970s and 80s, MMOGs amounted to a culmination of experimentation with the capacities of the Internet as a medium for the commercial delivery of gaming experiences (Donovan, 2010). After a long series of prototypical experiments with using graphics-based interfaces for online multiplayer games during the 1980s and early 90s, there was an explosive growth in investment in and development of MMOGs, especially during the growth and initial commercialising phase the Internet in the mid-90s. Text-based multiplayer games (or MUDs) that brought gamers together in their hundreds became MMOGs, virtual spaces where gamers could gather in their thousands within three-dimensional worlds containing detailed landscapes and cities. More importantly, however, was the way in which these massively populated online games would engender the development of a radically alternative business model for the games industry. The first commercial MMOG to employ this radically alternative business model was released in 1996 under the title *Meridian 59*; based around a set monthly subscription model whereby players would pay a flat rate to The 3DO Company – the games publishers – for unlimited access to the online game-world, *Meridian 59* attracted around twenty-five thousand players at its peak (Donovan, 2010). This subscription-based revenue model quickly came to define the design of every commercial MMOG that followed *Meridian 59*; as Donovan notes, 'while its 3D visuals were a first for any online role-playing game, it was *Meridian 59*'s payment system that was truly revolutionary' (2010: 303), paving the way for the revenue models of the next major MMOGs known as *Ultima Online*, produced by Electronic Arts.

Released in 1997, *Ultima Online* provides perhaps one of the clearest examples of how MMOGs represent an important juncture in the history of gaming as extensions of playbour and the development of apparatuses required to harness this form of production. Due to its size and rapidly emergent complexity, *Ultima Online* became the first game to have an officially employed community manager whose job it was to keep the game-world – and by extension the monthly subscriptions – running smoothly and profitably. However, the game itself suffered from perennial management problems from the beginning, mostly due to its design allowing players high degrees of freedom to interact and, in line with the central thematic of the game-world, engage in combat with one another (Donovan, 2010). This resulted in a variety of interesting developments that, for the purpose of the present study, highlight how

early MMOGs such as *Ultima Online* provided potential participants within this emerging market with valuable insights into what is needed in order to profitably mobilise a large population players. According to a number of accounts, the game-world of *Ultima Online* quickly degenerated into a situation whereby stronger players would rampage through the graphical environment 'slaughtering those weaker than themselves and looting whatever items their virtual victims were carrying' (Donovan, 2010: 304). In response to the lack of management over the unrestrained killing of players' avatars the game-world experienced what Dyer-Witheford and de Peuter describe as a "peasant revolt"; players of the game invaded the virtual castle belonging to the maker of *Ultima Online* Richard Garriot – whose went by the avatar name of Lord British – and presented their grievances in loud and disruptive protest (2009).

The response of Electronic Arts and Origin Systems – the designing company of *Ultima Online* – to this ensuing chaos was to police and regulate the game-world as much as possible in order to prevent many of their two-hundred and fifty thousand monthly subscribers from becoming disillusioned and cancelling their contributions to the profit stream. For the most part this was done by through game design alterations like the changing of cities into safety zones where players could no attack one another, introducing reputation scores, and by creating virtual jails for locking up problematic players (Donovan, 2010). Another aspect of *Ultima Online* that raised issues for Electronic Arts and Origin Systems was the way in which the management of the in-game world relied heavily upon players freely volunteering to answer questions and offer guidance to novice players; this came to the fore as an issue when a player initiated a lawsuit against Electronic Arts claiming that, in volunteering as an in-game community officer, they had been performing a full-time job without recompense (Dyer-Witheford and de Peuter, 2009).

Importantly, however, these problems encountered within the world of *Ultima Online* left the games industry with a number of important lessons to take away concerning the mobilisation and effective for-profit management of an MMOG population. Firstly, *Ultima Online* – despite its issues – signalled the advent of the Internet as a viable means of delivering large-scale multiplayer gaming as a commercialised experience which, formed around subscription based revenue models, would engender potentially open-ended profit-streams. Secondly, *Ultima Online* demonstrated to developers the need for structured management of and the means to control the complex social worlds to develop within future MMOGs; giving players as much freedom as possible was exactly what *Ultima Online* and its population problems taught future MMOG developers to treat with caution (Donovan, 2010). More important to this historical narrative, however, is how the problems facing *Ultima*

*Online* highlighted the degree to which MMOGs and their management in the pursuit of steady profits depended heavily upon the cooperation, loyalty, and often complicit input of player populations.

Later MMOGs such as Sony's *EverQuest* and Blizzard Entertainment's *World of Warcraft* developed and honed this revenue model established by the earlier *Meridian 59* and *Ultima Online* titles. This revenue model – based around players paying monthly subscriptions to access actively produce game-worlds subject to propriety legal agreements – optimised the ways in which player populations and their energies could be turned into lucrative and open-ended profit streams. As Dyer-Witheford and de Peuter explicate: '[p]layers not only purchased the initial software and paid monthly subscriptions, as well as expansions and add-ons, but also through their social interaction provided much of the game content' (2009: 26). The scale of this subtle incorporation of player populations into production becomes clear when one considers that games such as *World of Warcraft* and *EverQuest* have each exceeded five-hundred thousand monthly subscribers; today *World of Warcraft* alone boasts a subscription corpus in excess of eleven million (Blizzard Entertainment, 2009).

The ethnographic work of Taylor (2006a, 2006b) provides some very useful insight into the complex and nuanced ways in which these populations of players are as much producers of the game-worlds they inhabit than they are consumers of them. In her study of the MMOG *EverQuest* – detailed in the book *Play Between Worlds* – Taylor notes how the game code and architectural design, most notably the function and scarcity of in-game items and resources, have facilitated the production of markets and systems of exchange (2006a). Detailing the example of "porting" – that is, the instantaneous transportation of avatars to locations all over the expansive in-game world of EverQuest, only capable of being performed by druid and wizard characters – Taylor notes how this valuable resource quickly became realised as a source of additional in-game currency or those players who could perform it as a service for others (2006a). Of particular note here, however, was the ways in which the development of this in-game transportation service emerged from the within player community and how this community developed a relatively stable pricing system to accompany it (Taylor, 2006a). The reaction of Sony, as the commercial owners and managers of the game-world and its contents, was to redesign the transport system to bring it more fully under their regulatory control; they brought about a centralised transport zone administered by automated avatars – also known as non-player characters (NPCs) (Taylor, 2006a). These changes eroded the role of players in "porting" and thus its value as an in-game service. 'Almost overnight the economy around porting crashed. Players who had

formerly made a decent living as a kind of in-game taxi service found themselves practically out of work' (Taylor, 2006a: 61).

What this string of developments within EverQuest highlights is the way in which architectural design features of MMOGs and emergent player cultures interplay with one another to form complex in-game economies of production and service provision, and that these economies and cultures are wholly subject to the interests and whims of the commercial owners of these game-worlds. Indeed, for Taylor this example brings more general issues arising from the enlisting of MMOG player communities into production processes to the fore, especially with regard to the ways in which player populations are becoming increasingly responsible for the creation of in-game content and cultural forms (2006a); put another way, the ways in which players are becoming productively mobilised into playbouring populations that are, at one and the same time, both profitable through their monthly subscriptions and the ways in which they are generative of valuable content and services that enrich the complexity, culture, and persistence of the game-worlds they inhabit.

Acknowledging the way in which MMOGs constitute an extension of other playbour forms such as modding into a mass mobilisation of users as producers (or 'co-creators'), Taylor suggests that there are serious questions to be raised about the avidity and ease with which post-industrial capital seems to have mobilised and harnessed the productive energies of audiences (2006a) – especially since these emergent forms of 'free labour' (Terranova, 2000) have become central to the intertwined factors of (a) player enjoyment and (b) the profitable success of commercial game companies. However, in order to make sense of how these emerging forms of playbour are playing out within the context of the games industry, and the digital economy more generally, a broader conceptualisation of cultural production is needed – one that goes beyond simplistic producer/consumer and work/play binaries to understand the ways in which these are becoming blurred to the benefit of large corporate forces. Despite the ways in which players have become incorporated into production processes, there is heavy weighting toward the power and legal rights of corporate ownership claims, made manifest through EULAs and other propriety apparatuses. In Taylor's terms there is a current "turn", within both the games industry and the digital economy in general, toward privileging corporate interests above creative, independent, and collaborative work undertaken by users/players (2006a). Moreover, during the course of Taylor's ethnographic research on Sony's EverQuest it becomes clear that there is often a preoccupation within gaming communities to discuss and problematize fundamental game-design issues – "how can the game's mechanics be improved?" "is the aritifical intelligence of automated avatars

being improved?" "can more content being introduced?" – rather than broader, more socio-political concerns about rights, property or access (2006a).

### 4.2.3 — *User-Created Content: Extensions of Playbour-Power*

Another strand of the playbour-power trend that runs parallel to the development of MMOGs and modding is the introduction of multiple forms of UCC into gaming architecture. The ways in which this has occurred since the late 1990s and into the first decade of the twentieth century are again bound up with the development and rise in popularity of the Internet as a medium, meeting place, and distribution method for video-games and gaming cultures. When looking at the discourses emerging within the management of the games industry during this period (up to and including the present day) there is a preponderance of statements regarding how UCC can be tapped into for commercial products (Taylor, 2006a). Within development communities and industry organisations it became increasingly commonplace for player-produced content to be noted as one of the key factors in a games commercial success. This notion that the commercial success of games could rest heavily upon the productivity of players became even more formalised into the design architecture of game-worlds. A good example of this is the series of games known as *The Sims*, which, building upon the ideas set in motion by the success of modding and user-creativity in games like *Quake* and *Half-Life,* had the emerging trope of players-as-producers at the core of its design. Launched in 2000, *The Sims* was a game that incorporated tools for players to create new clothes for their various avatars and design new interiors for their simulated domestic homes. The team involved in producing the game became centrally focused upon 'the idea of breaking down some of the barriers that used to exist between player and creator' (Donovan, 2010: 326), which, accordingly, was hailed as one of the primary reasons for the games commercial success. Anticipation surrounding the release of *The Sims* was so high that Electronic Arts gave communities of soon-to-be player-creators the tools needed to start designing avatar clothes and wallpaper patterns (Donovan, 2010). The content created by the players of *The Sims* accumulated to levels far in excess of what Will Wright and his design team had anticipated (Donovan, 2010), attracting many more players to the franchise whilst also demonstrating the commercial capacities of UCC game design as a lucrative and product-enhancing business model.

Around this time, the deployment of user-creation tools within MMOGs became central to the maintenance of in-game communities and increasingly integral to sophisticated and technical forms of gameplay management (Hjorth, 2011); MMOGs such as *World of*

*Warcraft* had, by 2005, developed a huge ancillary culture wherein players designed their own interface modifications for monitoring their status and progress within the game-world (Taylor, 2006b). Fitting in within the broader emergence of UCC within gaming cultures, MMOG interface mods such as these became indispensable game-play aids for serious players and, as such, added significant value to their contingent game-worlds by improving the user experience (Nieborg and van der Graaf, 2008).

Commenting on the playbour phenomenon as a core ingredient of Web 2.0, Larissa Hjorth notes that player-production processes have become an integral part of gaming communities and the video-games industry's commercial strategies, noting that it is:

> 'a labour of love that is supported and then turned into profit by the industry … , [p]laybour hits a chord in the politics of UCC labour practices; it highlights new forms of emergent affective, emotional, creative, and social labour that are being deployed by users/players as they transgress conventional consumption and production divisions' (2011: 53).

However, an additional and important point here is how this mobilisation of player agency and creativity into a productive force has reshaped the way in which the video-games industry operates as a commercial entity both framed by — and framing of — the desire to recognise and act upon (potential sources of) value. A recent example of the extent to which playbour has become a central component in the valorisation processes of the video-games industry and its business models is the game *LittleBigPlanet*, released in 2008 for the Sony Playstation 3. *LittleBigPlanet*'s design is centred entirely upon it being a game creation tool in itself, capable of producing a wide variety of two-dimensional games glossed by a fun-loving scrapbook aesthetic. Within this game, players use editor tools to create and edit new levels and objects. These creations can then be shared with other players over the Playstation Network online service, providing a sort of continually developing arena of valuable content creation. After eight months of its release the game creation tool had, with the input of hundreds of thousands of user-creators, generated more than a million different game levels – all of which were accessible to players through its social networking-inspired portal. Although this level of player-production has rarely occurred outside the PC-games market, it nonetheless demonstrates the level to which UCC architectures and, by extension playbour, have become central components in the commercial ventures of the games industry today; indeed, the

entire contents of *LittleBigPlanet* – the millions of mini game-levels – was built through playbour agency. Donovan summarises this in a distinctly utopian fashion by stating that the:

> 'embrace of player-generated content underlined just how much the video game medium had changed over the years … ; [h]aving begun life as a medium defined wholly by developers, video games were rapidly evolving into one that turned consumers into artists' (2010: 331).

The important point missing here, however, is how the games industry has increasingly learned to suck up volunteer production as an *identified* source of *valuable* innovation, and the issues this throws up for ways in which these processes can be understood as exploitative, empowering, or interlaced with subtly contingent dynamics of valorisation and (re)appropriation — in short, how 'playbour-power' constitutes a core component of the video-games industry's commercial success today. The particular significance of titles such as *LittleBigPlanet* is that they have integrated the *productive* potential of players as a foundational part of, at one level, the gaming experience and, at another level, the processes through which the value of this gaming experience is both recognised and valorised as a form of profitable entertainment — a tapping of the creative abilities and energies of a player population as means of mobilising the desires of potential new players. That is, a mobilisation of a form of labour-power that Marx saw as deriving directly from the emergence of large-scale industry — a collective property of a population of that is both free and at the same time *already* subsumed under capital's mode of its own reproduction (Marx, 1983). The tagline of *LittleBigPlanet* — 'Play, Create, Share' — foregrounds the centrality of this mobilisation of playbour-power through an injunction to spend *time* applying your creative capacities, to cooperate and generate (valuable) content (for *free*) — play in this sense becomes a *value* appealed to in an effort to mobilise the subjective desires of players into a productive form of 'playbour' that is founded upon a cooperative and collaborative ethos. It is in this exact sense, then, that through their efforts, desires and energies, players' subjectivities become direct sources of *value-to-be-valorised*.

As the above has attempted to outline, whether it is through providing tools for players to modify games, or by providing the mechanisms for them to share content derived from their own playbouring experiences, the creative and cooperative capacities of gamers have become significant sources of abstract economical value through various means and at

multiple levels — at the small-scale level of modder communities and their value as *free* sources of content creation, to the massively multiplayer level of populations and their rich economies of practise and exchange, and everything in-between.

### 4.3. — **What this History Reveals: the Story of a Constantly Adapting Industry**

The historical trajectories of the mobilisation of 'playbour-power' as an increasingly recognised source of value highlights how the very definition of what constitutes the video-games industry can be brought into question through an examination of its commercial logics of valorisation processes. Such an examination brings to the fore: the incorporation of modders and their freely-given time and efforts as developers of valuable content; the mobilisation of players *as* content creators to build attractively complex in-game cultures; and, the building of immense online game worlds as sources of apparently unlimited profit through both subscription-based revenue models and the initially unintended emergence of real-money trading for in-game items and services — what might be described as the emergence of relatively new political economies that, through the processes described above, have come to overlap and enmesh with those already exisiting.

The rise of playbour within the audience cultures of the games industry — when considered in the historical context of the forms and relations of production that preceded it — constituted a subtle incorporation and reverse engineering of the "work-as-play" (into a "play-as-work") ethos that had characterised the way in which computer games, since their inception in 1960s hacker culture, had continually relied upon a constant infusion of playful energies from assemblies of creative workforces. From the hacker cultures of the 1960s, to the 1970s workforce that challenged Atari's industry strategy, to the calculatedly managed and publicly celebrated designers that animated Nintendo's revival of the industry in the 1980s – these workforces were all animated by a "work-as-play" ethos, albeit under different regimes of managerial control. As the above has attempted to outline, the next workforce to be mobilised in the search for new ways to make the games industry profitable lay outside the formal boundaries of employment and wage-labour, out in the rapidly expanding network of online player communities.

The aim, then, of this and the preceding section has been to bring the configurations of *labour* and *valorisation* processes that have underpinned the games industry's trajectory to the foreground of consideration, with the explicit purpose of outlining the historical trajectory of the video-games industry *as a capitalist enterprise* founded upon the buying and

selling of entertainment as a commercial commodity. In terms of perspective, the protracted history of gaming's commercial development presented here is one that highlights, above all else, the dynamics and (re)configurations of organisational *forms* and *relations* of production that have come into existence *as expressions of* a continual and iterative process of valorising perceived *sources of value* — it is a history of the ways in which creativity, cooperation, beliefs and values, as mobilising forces *of* desire and calculation, have played a crucial role in the formation of a new media industry and its strategies of production and accumulation. Presenting an historical narrative of the video-games industry from such a perspective — that is, highlighting its initial mobilisation, structural (re)organisation, and strategic management — does not only paint a unique picture of how, since its commercial inception in the late 1960s, it has proceeded to innovate, capitalise upon, and organisationally reconfigure in accordance with *re-identifications* of potential sources of value; it also furnishes us with a particular frame of reference from which to begin investigating current developments in this highly successful — at times, volatile — new media industry's methods and means of both *identifying* and *valorising* potential sources of value that can be found within the intricately complex social relations of cooperative associations and creative capacities. Moreover, the significance of value and valorisation as central themes through which to frame an historical narrative of the video-games industry can be further elaborated through a consideration of how the commercial logic(s) of this new media industry tie into broader questions regarding the interrelations between new media technologies, labour processes, and the dynamical motion of capitalist (re)production.

Understanding labour and its concomitance to the process of valorisation is a core component of political economic analysis aimed at understanding the social relations of production and the foundations upon which they are made possible — whether they are exploitative or emancipatory, characterised by struggle and resistance, or merely indicative of broader systems of capitalistic control and appropriation of even the most intimate aspects of subjectivity. Thus, in relation to the video-games industry, placing questions regarding value and processes of valorisation at the centre of analysis provides a platform for critical investigation into key themes and issues that arise from the conditions of their (re)production, (re)configuration, and appropriation — conditions which, first and foremost, have necessitated both a mobilisation and periodic restructuring of labour- *and* playbour-power in the pursuit of productivity, value and profit. Moreover, a critical interrogation of these themes and issues opens up a space for the possibility of a political economic critique of the conditions and the possible contradictions that attempts to valorise potential sources of value may — or may not — give rise to. That is to say, an investigation into labour, value

and valorisation in the video-games industry can provide a stepping stone for formulating a broader political economic critique of the relations, conditions, and potential contradictions of the (re)production processes that underpin dominant forms of commercialised, new media entertainment.

## 5. Value in the Video Games Industry Today: Monetisation, Measurement and the 'Problem of Profit'

Detailing through the history of the video-games industry up to this point, it quickly becomes clear that an investigation of recent and current trends in the commercial logic(s) of this entertainment industry must take account of the ways in which it has valorised sources of creativity and cooperation beyond its *formal* boundaries of labour and employment. Understanding these developments as direct expressions of a more general set of dynamical process whereby sources of value and means of valorisation are developed, reconfigured, and adapted over time leads one to consider how, and what ways, might these processes be taking place in the present? Where might we look to find hints or evidence of such processes within the remit if an investigation into the video-games industry? As I intend to demonstrate, such questions do not require one to look to the peripheries or the margins, but to the recent debates and developments that have occupied — and, in many cases, that are still occupying — centre stage within the video-games industry.

Since the turn of the millennium, the video-games industry has developed in a variety of directions. For example, multiple forms of monetised exchange practices *within* online game worlds — the archetypal examples discussed hitherto being Blizzard Entertainment's *World of Warcraft* and Sony's *EverQuest* — alongside an emerging plethora of so-called 'social' and 'mobile' games based around a "new" revenue model referred to throughout the video-games industry as 'free-to-play' (or 'freemium') gaming, have come into commercial existence in recent years. These developments are particularly notable here as they represent core shifts and changes and in the way the video-games industry innovating new ways of thinking about sources of value and methods of valorisation. These innovations within the video games industry with regards to what current and future sources of abstract economic value might be are discussed within this chapter under the heading of 'Monetisation Models', which, with regards to terminology, is a direct and explicit reflection of the ways in which these developments are — and have been — discursively narrated within the video-games industry by developers, researchers, publishers, industry analysts and so on in the pursuit of overcoming what is often seen as the "problem" of profit.

Another salient development that has emerged in tandem with — and indeed, as a part of — this seeking-out of potential sources of value within the video-games industry is the recent burgeoning of 'game analytics' companies. A particularly noteworthy example of such companies being deltaDNA (formerly known as Games Analytics), who specialise in providing video-game publishers detailed metricised analyses of player behaviours 'right

down to event level' (deltaDNA, 2014) in order to provide advice and direction on how to identify previously "untapped" sources of value and, thereby, further monetary gains beyond those currently established. The emergence of such companies, I shall endeavour to demonstrate, is indicative of the ways in which the general social and cooperative capacities of players, as a central preoccupation of recent innovations and adaptations within the context of the video-games industry's commercial logic(s), is being placed under increasing levels of metrical examination and *quantification*.

Overall, what I want to demonstrate in this chapter is that such developments can be understood and investigated in considerable detail through a focus upon the ways in which the general sociality and subjectivity of players is today being looked to and analysed as a way of understanding the potential quantified value such qualitative capacities can yeild. Such a focus can provide an insightful means of interrogating the broader question of how new media industries are driving — and deriving from — innovations in the value logic(s) of capitalist markets that seek to find ways to impose systems of measure on the social and cooperatively productive capacities of players/users. A detailed and grounded consideration of questions regarding the ways in which the productive capacities of video game players to create social connections, content and novel gaming experiences for others inform inform the commercial calculations of the video-games industry today constitutes the final stage of this investigation. With this in mind, the following shall proceed to outline and critique the range of aforementioned developments through an investigative consideration of recent trends in the ways that *monetisation*, *measurement*, and *game design* are being both researched and discussed as ways for *thinking* about, *identifying,* and *valorising* the potential sources of abstract economic value latent within, to refer back to chapter 3, the productive capacities of players' sympathetic cooperation as participants within a shared world of playful and meaningful engagement.

Such questions are central to the ways in which notions of value are perceived and responded to through narrative appeals to core values and beliefs about the directions innovations in revenue models can — and indeed *should* — take. As such, the overall aim of this chapter is to present a picture of certain debates and developments currently taking place within the video-games industry that — through a focus upon the aforementioned themes of monetisation methods and systems of measurement — allow one to think through the ways in which perceptions, understandings, and desires to make sense of — and appropriate — perceived sources of *value* are translated into attempts to negotiate and innovate new methods of *valorisation*. Often, as I intend to show, such negotiations and attempts at innovation are sometimes narrated by video-games designers, publishers, researchers, and company CEOs

through an appeal to a shared sense of core *values* and beliefs within the industry community. Nevertheless, by and large, such negotiations and attempts at innovation can be understood as a process of navigating the perennial "problem" of profit.

Through such a line of inquiry, one can iterate the discussion back to the broader level of making sense of these developments in light of current social theory on the machinations of value and valorisation processes within post-Fordist capitalism, and — perhaps — add a new layer of detail to what might be thought of — and further investigated — as the *inner-workings*, or developing methods of the social factory. Indeed, the coalescence of these current developments around a desire to subject the potential value of intimately subjective and social player behaviours to methods of measurement and monetisation can also be placed into direct dialogue with what I have previously referred to as the proposition of an incommensurability between emerging forms of networked (or, immaterial) productivity and capital's (in)ability to "capture" such activities through processes of quantifiable valorisation. In pointing to this, and the ways in which it may be elucidated through the examples of gaming metrics and monetisation models, I aim to open up this proposition of incommensurability and place it firmly under investigation; indeed, it seems pertinent to point to the increasing role of metrics and systems of measurement — both within and without the video-games industry — as possible instances of concerted *attempts* to overcome (or, to use Marx's terminology *negate*) the problem of valorising the supposedly "un-valorisable". Through this, a particular — though, I would suggest, considerably unique — contribution can be made to broader discussions regarding the subjection of *social life in general* to the 'logic of capital' (Skeggs, 2014).

## 5.1 — **The Perceived Problem of Profit: Issues of Monetisation and Measurement**

In order to gain insights into these developments and innovations in methods of valorisation, data was collected from a range of sources and materials. This collection of data took place over the course of three years, from mid-2011 through to mid-2014; during this time, a range of information and data — industry-insider bulletins, research white papers, market reports, publicly available interviews with industry specialists, website advertisements and so on — was collected with the explicit purpose of gaining insight into "how members of the video games industry are reflecting upon its methods and means of generating revenue". The collection of this information, for the most part was fairly straightforward; all it required was a willingness to be exposed to the circuits of advertisements, advice-giving, and discussion that are in place for those who are involved in various sectors of the industry itself. To

achieve this, I went about subscribing to the email-lists of leading industry report companies such as gamesindustry.biz and gamasutra.com, global conference bulletins on game design, marketing, and monetisation strategies, alongside obtaining employee handbooks, research white papers, monthly briefs, brochures, and dossiers from companies such as Valve Corporation, Games Analytics, Palymetrix, and DFC Intelligence. This exposure to the daily communications and goings on within the video-games industry yielded a colossal amount of information on the ways in which revenue models, player behaviours, games design, and markets were being reflected upon and discussed strategically — on the ways this new media industry is *thinking about where value can come from and how to valorise it*. This process I refer to subsequently as the perceived "problem" of profit.

### 5.1.1 — *Monetisation Models: Value, Values, and the Perceived "Problem" of Profit*

Over the last decade there has been a notable increase and prevalence of what are often termed under the rubrics of 'mobile' and 'social' video-game formats. Although *portable* game devices such as the Nintendo Game Boy have been in circulation since the late 1980s, the commercial successes of mobile multimedia and "smart" devices such as the Apple iPhone and Google Nexus have facilitated an immense proliferation of these 'mobile games' (Chan, 2008; Koivisto, 2007). This is a recent development in the computer games industry that many market researchers have focused in on as a key area of potential market growth; one market research company, offering a prediction in 2009, reported that the Apple iPhone alone will drive the mobile games market from a then-current valuation of 7.2 billion US dollars to an estimated 11.7 billion by 2014 (DFC Intelligence, 2009). The perceived problem, however, was how to formulate and refine a monetisation model that would meet such high expectations — the answer arrive at was 'free-to-play'.

The terms 'social' and 'online' gaming have also become dominant tropes in the last decade or so for describing the ways in which — through the 'participatory' and 'networked' architectures of the Internet (what some commentators call 'Web 2.0') — video-games are becoming increasingly designed around an ability (and desire) to facilitate online participation, engagement, creativity, and collaboration between players (Hjorth, 2011). Alongside this, there have been many important and — for both critical and celebratory observers — interesting developments taking place with regard to the aforementioned genre of 'massively multiplayer online games' (MMOGs), particularly with regards to the subscription revenue models these 'virtual worlds' are founded upon as sources of commercial profit. Taken as a whole, these developments all coalesce around two broad trends in the ways in which the

video-games industry has innovated, adapted, and reconfigured in accordance with what can be adequately described as the 'percieved problem of profit'. These innovations are: (a) the emergence of a revenue model known as free-to-play, 'freemium', or 'paymium' and (b) experimentation with and further adaptation of the micro-transaction and real-money trade (RMT) economies that, as I have shown previously, first emerged in the form of clandestine markets and 'gold farms' that were, at-one-and-the-same-time, both *part* of and positioned *outside* the revenue streams generated by the commercial game-worlds of Massively Multiplayer Online Games.

The first key development I want to draw attention to here is the emergence of the 'free-to-play' revenue model that has come into existence alongside the proliferation of 'mobile' multimedia and "smart" devices. In simple terms, the core features of 'free-to-play' games are that they allow players *access* to a significant portion of in-game content at no cost. In many cases this involves potential players being granted access to a fully functional — and, in theory, relatively "beatable" — gaming experience; however, a core set of mechanics are coded into the game architecture that incentivise the player to pay small fees in order to buy in-game items of various kinds, retry difficult levels, and generally *progress* through what the game has to offer. For example, a hugely popular 'free-to-play' puzzle-game named *Candy Crush Saga*, which requires the player to eliminate blocks of multicoloured and sweet-looking virtual "candy" at increasing levels of difficulty, grants the player five "free-tries", or "lives", one of which are "lost" every time a level is failed. Once these lives are exhausted, players are presented with a number of options to replenish them: firstly, players can send requests to their Facebook friends, inviting them to play and, thereby, replenishing the inviters lives; secondly, players can wait for an allotted time period for these lives to replenish themselves (half an hour per life); or, thirdly, players can purchase new lives directly from an in-game store using their credit card or PayPal and so on. Although this is a rather simplistic overview, it is nonetheless clear how this revenue model constitutes a significant departure from the traditional retailing of games hardware and the monthly subscription models of MMOGs like *World of Warcraft*.

The ways in which this revenue model is being discussed within the industry, by developers, publishers, executives and so on, paints a particularly insightful picture of the kinds of innovations taking place with regards to how value is "thought about" within the industry. Such discussions reveal a great deal about the kinds of technical lexicons being developed in order to describe from where and how value can be sought, and the playing out

of decision-making processes about the implementation of new regimes of profit; moreover, at times, they also reveal a great deal about the *values and beliefs* that are mobilised when talking about the value of players in a monetary, profit-seeking sense.

A particularly insightful starting comment on the perceived promise and potential of the 'free-to-play' games revenue model is contained within the following statement made by Michail Katkoff, an executive producer at the multi-million dollar games company Zynga:

> 'When you're talking about services and f2p [free-to-play], you're talking about bigger audiences … With bigger audiences, you have much more leverage to create revenue. Because now not only can you create revenue through in-app purchases, you can also create a lot of revenue through advertisements because you have that much traffic. We're not talking about doubling; we're talking about 10 times bigger audience sizes.' (Katkoff, quoted in Sinclair, 2013a: [online])

Of particular note here is the overt sense of promise expounded by an appeal to the potential for garnering audience sizes of such considerable scope that there will be a possibility for "leveraging" revenue in multiple ways. Important terms such as "traffic", "in-app purchases" and "advertisements" are referred to here as core ingredients for thinking through and reflecting upon the ways in which, ultimately, the free-to-play model of gaming holds much promise for generating incredible levels of revenue through an attraction of greater audience sizes — quite literally, there is a sense of quantity begets quantity here, the greater the cumulative attention-time, the more profitable the game. This final point is elucidated by Katkoff's follow up statement on the uses of technical knowledge for understanding the value of players:

> 'Instead of looking at ARPU [average-revenue-per-user] or conversion rate, I usually like to look at retention … The longer time players actually spend in one specific game, the more likely they are to convert, either by watching ads, making in-app purchases, or inviting their friends to play along.' (Katkoff, quoted in Sinclair, 2013a: [online]).

In a similar, yet more technically described fashion, Katkoff describes here the information and methods he employs to reflect upon the potential sources of value to be found within

gamer populations. What is particularly revealing is that he refers here to 'retention' as a valuable metric for him to think about the best ways to understand the conditions through which players increase in their revenue potential — for Katkoff, the most important condition is *time* spent within the game because, as he sees it, this makes players "more likely to convert" *into* revenue. Of note here is that this notion of *conversion* refers directly to a perceived sense of a latent value potential in both the subjective experience of players (time spent in the game) and their sociality interconnectedness (the possibility of inviting their friends along). This perceived sense of a latent value has multiple dimensions — the possibility of watching advertisements through increased *attention-time*, the direct *purchasing-power* required to acquire in-game content, and the value of the *general sociality* of already-existing players to introduce new players. As was discussed in chapter 3, it is the general socially co-operative ability of people to establish connections and share beliefs, experiences, and values that constitutes the foundational productive power of social life in general. Here it is clear that this general capacity for sharing (the gaming) experience "with friends" is at the forefront of consideration as a means of understanding the value of players' time in an abstract economic sense of revenues.

The importance of obtaining technical knowledge as a crucial means through which to understand and "make sense of" potential forms of value latent within players of free-to-play games is reflected upon in the following account given by Tayber Voyer, a self-described "thinking ape" designer and producer within the video-games industry. Of particular note in the following is an emphasis upon understanding context and the 'emergent behaviour' of players. In a presentation on the importance of metrics for games design, Voyer posited the following:

> 'With player feedback, you can learn and understand context. And context is what creates emergent behavior. And behavior makes your product great … They're [players] the people that pay for your game to exist. And even if they aren't a high spender, they're critically important to the ecosystem of your game. Every player is' (Voyer, quoted in Sinclair, 2013b: [online]).

Although noticeably less couched directly in monetary and revenue terms, the points of emphasis here upon player behaviour, context, and the ecosystem of games are nevertheless enmeshed in a process of "thinking" about the productive potential of players' participation

in the game. For Voyer, the role of various forms of feedback for understanding context and player behaviour cannot be overemphasised as means through which to reflect upon how every player — even those who do not directly spend large quantities of money — is of critical importance to what he refers to as the "ecosystem" of a given game. This appeal to the notion an ecosystem, though not explicitly couched in terms of value, nevertheless alludes to a sense of the overall "health and systemic balance" of a game and its player population — an allusion that, given the previous reflection of Katkoff on the revenue virtues of audience size, nevertheless implies some form of overall sense of the value of players, *no matter who they are and what they do*, to the "commercial health" of the game. Moreover, there is a peculiar ethical dimension to Voyer's account that comes to light through his referral to players being the *reason* the game exists — a sort of indirect eschewing of the commercial purpose of games as generators of revenue and capital, and a foregrounding of the player population as the foundation of a "great game". In a sense, this constitutes a sort of indirect attempt to downplay the commercial basis of games and draw attention to the primacy of an ethical foundation for their existence: it is the players themselves that make games great, not the companies to whom they belong — players and their behaviour *are* the game.

And yet, at one and the same time, there is a noticeable sense of commercial "ownership" of the game as a means of valorising gaming behaviour ('behaviour makes *your* game great') that sits alongside an appeal to a kind of ethical value that elevates players to a position of *power over existence* ('They're [players] the people that *pay* for your game to *exist*') — a central theme of this juxtaposition between reflections upon commercial *value* and ethical *values*, then, is a preoccupation with the overall perpetuation and *continued existence* of the video-games industry as both a *creator of* engaging experiences and *subject to* the value-judgements of those whose experiences it seeks to valorise.

Such ethical appeals to a notion of the overall *progress* of the industry through explicit discussions of — and reflections upon — means and methods for valorising player behaviours, is particularly common in the discursive exchanges taking place within the video-games industry. Consider, for example, the following statement from industry analyst Rob Fahey, in which an ethical notion of 'salvation' is mobilised in a discussion about the commercial, profit-seeking future of the video-games and its problematisation as an "unknown":

> 'The salvation of core game development will lie, in some way, with a strategy that allows players who are deeply engaged with a game to spend *more* money on it" [emphasis added] (Fahey, 2013: [online]).

From this pithy, yet highly insightful, comment it is clear that there is a central concern for the future profitability of the video-games industry, and that this concern is expressed in a two-fold equation of a "problem" and "solution". Firstly, there is an explicit referral to the perceived "problem" of how to design and develop video-games in the future as an issue of 'salvation', of saving the industry from some form of implied damnation, destruction, or decadence[16]. Secondly, Fahey goes on to posit that the source of this salvation is to be found within a game design strategy that 'allows players who are deeply engaged with a game to spend *more* money on it' — the problem of salvation, through this proposal, translates into a technical problem of "how to get more players *deeply* involved", so that this salvation might be realised in the form of *more money*. What we can see here is a rather remarkable and seemingly seamless process of translation between (a) values, (b) abstract economic value, and an articulated need for new methods of (c) valorisation: the imperative to (a) "save" the video-games industry requires a concerted reflection upon where (b) economic value can be found, and this further requires a reconfiguration of (c) the means and methods of its appropriation. That is to say, in an overtly noticeable sense, the future of the industry is posed as a problem of "where will profit come from?", yet this is posited — in the first instance, but certainly not the last — in distinctly moral terms.

In pointing to this I am not attempting to suggest that there is a complete uniformity of opinion and shared values amongst video-game designers, developers, company leaders and so on — rather the opposite. Indeed, there are many instances where the values and beliefs of people working within the industry come into direct conflict over the direction of its commercial future. Instead, the picture I am attempting to portray here is rather more simple: that the future of the industry and its developmental direction is framed by a primary concern for how and in what ways revenue can be generated from "new" sources — that is, it is a picture of what appears to be the prevailing priority of a new media industry. An example of the rile against the ascendancy of the free-to-play revenue model is demonstrated in the following, where 'code enforcement officer' of Devolver Digital, Graeme Struthers responds

[16] In itself, this is eerily reminiscent of what Weber (2003) identified as a peculiar germination point of the spirit of modern capitalism — the protestant ethic, founded as it was upon a preoccupation with divine salvation

to the wide-spread speculation that video-game consoles will — as a consequence of this ascendancy — become obsolete as 'mobile' and 'social' gaming takes centre stage:

> "I was so fed up of people telling us we should do free-to-f***ing-play, in-app-f***ing purchases, whatever the f*** that is, and that consoles were dead. So f*** all of those people and their f***ing shitty stance. Consoles aren't dead" (Struthers, quoted in Pearson, 2014: [online])

It is clear from the fervour of Struther's comment on the free-to-play model that we can not consider there to be a single unanimous agreement upon it as *the* future direction of the video-games industry Rather, it seems more pertinent to highlight how it is a key point of discussion, debate, and reflection with regards to a more general — and primarily constant — preoccupation with "where the industry is going"; and this, it must be reiterated, is often articulated in terms of "what *revenue* models *are* appropriate to such a future". Indeed, reflection and discussion centred upon a general uncertainty regarding the future of the video-games industry appeared to be a daily topic in the streams of news, debate, interviews, and research findings examined over the course of this investigation. As the following comments from Peter Molyneux regarding the *morality* and *potential* of the free-to-play revenue model shows, this is clearly a core topic for considerable debate and discssion. Note that he refers to the *potential* of free-to-play games through metaphor of "the cube":

> "There are very few checks in place. I think that a lot of the people we call *whales* are kids that have grabbed their parents phones. I know my son has done that … Well, I know what's in the middle of the cube. And whoever breaks in there, I promise you this, it is the most amazing thing … It's a big cube; what's inside? Only one person will find out, and whether that one person then goes on to tell the rest of the world, I don't know" [emphasis added] (Molyneux, quoted in Handrahan, 2012: [online]).

Initially, Molyneux makes reference to the recent controversies over how much money is being spent in free-to-play games, in some cases accumulating invoices in the thousands of pounds (see: Poulter, 2013). It is interesting to draw attention to the way in which this is addressed here by Molyneaux and the terms employed. Firstly, he places the current validity

of this revenue model into question through a reference to "checks" not being in place to control how much — and how easily — players can spend hard currency on in-game content, referring to those who do as "whales" — a common term throughout the industry for a small percentage of players who spend phenomenal amounts of cash on in-game content relative to the majority active players of free-to-play games. This light touch upon the possible problems this revenue model might give rise to is then followed up by a much more exuberant and enthusiastic comment regarding its future *potential* — it is, for Molyneaux, a cube to investigated and "worked out".

Despite the lack of a direct reference to monetary or revenue gains to be made, there is a noticeable sense of the potential of this "free-to-play cube" being a *potential gain* for those companies that can exploit it; this is most clear in the way in which Molyneaux comments that only one "person" will "break into it" and the question then will be wether that "person" reveals their secret to the rest of "those seeking the centre of the cube". What is being alluded to here through this elaborate — and possibly evasive — metaphor is the possible discovery and revealing of a "business secret"; a secret, if you will, pertaining to the "best possible" way to garner the attention, time and productive potential of *player-audiences* as a *cube puzzle*. Again, as the above examples have illuminated, there is a peculiar admixture here between value and values, between the ways in which values, beliefs and desires are framing devices for thinking about a more abstract and economic notion of value. At one and the same time, Molyneaux invokes the "problem" of profiteering as a sort of "cube" puzzle — describing its adequate solution as the "most amazing thing" — whilst also reflecting on the possibility of wether those who "discover" a solution to this problem will be motivated to share their "secret" with "the rest of the world". Value is being narrated here as an object of mystery, amazement, and discovery. At the same time, the *ethical* value of sharing and collaborating on the problem of "figuring out" value is invoked through a rumination on the prospect of such an "amazing" feat being achieved in a potential future. Nevertheless, in both cases one can glimpse here how value is considered and made the subject of speculation through reflection upon its nature and potential source(s); Molyneux's "cube" of currently unknown quantity and scope *is*, at one and the same time, players *and* their potential productivity as a source of *value-creation* — the "problem" is figuring out a means to identify the "most amazing" way achieve this.

Up to this point, I have started to provide an outline for considering how and in what ways the discussions taking place within the communicative circuits of the video-games industry in relation to the free-to-play revenue model reveal — even if only in a passing glimpse — how the shared beliefs and values of video games industry participants are

oriented towards a shared notion of value as a standardised, economic measure expressed in terms of revenue and profit. Moreover, I have also intimated toward the ways in which we might go about considering the ways in which such shared *values* — in the sense of appeals to ethical imperatives such as cooperating, collaborating, and empowering — are invoked and deployed in direct connexion with "thinking through" how to identify, configure, and *valorise* collective player behaviour an subjective experiences as potential sources of a standardised, measurable source of value. From here, it is useful to point to a number of examples of the implementation of the free-to-play and 'micro-transactions' revenue models to provide some clarification and further insight beyond what, so far, has been a detailing of *speculated* potential.

Enter King Digital's *Candy Crush Saga*, the archetypal success story of the free-to-play model — and there have been many failures to be sure. The story of *Candy Crush Saga* is not only a story of immense capital accumulation through sales revenues, it is also the story of a multi-billion dollar Intellectual Public Offering (IPO) and the ascendancy of two figures behind its creation into the top-thousand wealthiest people in Britain. Initially released in April 2012 for Facebook, and the following November as a mobile app for smartphones, *Candy Crush Saga* is a puzzle game that requires the player to horizontally or vertically "swap" the position of two adjacent pieces of candy to create sets of matching colour. As previously mentioned, the game grants players five "free-tries", or "lives", one of which are "lost" every time a level is failed — and once these lives are exhausted, players are presented with a number of options to replenish them: through in-app purchase; requesting help from friends via Facebook; or waiting for a given time period. The success of this game in monetary terms was, by September 2013, simply immense — so much so, in fact, that King Digital prepared for an IPO estimated at that time to value at around $5 billion (Brightman, 2013).

Over the course of 2014, the success of *Candy Crush Saga's* free-to-play revenue model continued to the tune of astonishing statistical breakdowns of "how many players", "how much revenue", and, importantly, "how many more *new* players". One analysis conducted by *The Guardian* estimated that, over the course of 2014, players of the game *spent* £865 million on the in-app purchases alone (Dredge, 2015). It is perhaps worthy of note here too that in May 2014, Riccardo Zacconi (co-founder of King Digital) — along with a number of others involved in the creation of, and investment in, *Candy Crush Saga* — were entered into the The Sunday Times Rich List, a generalist guide to the wealthiest people in Britain (Weber, 2014). In July of 2014, it even became possible to buy *Candy Crush Saga* confectionary in selected

stores across the United Kingdom (Weber, 2014b). One would not be amiss to suggest that, in many ways at least, it only took one year since Molyneaux's allusion to "the cube" for someone to "reach the middle" using the free-to-play revenue model, and the results were amazing — startling even.

Another particularly interesting development to detail here, especially with regards to adding a sense of chronological unfolding from the discussion of MMOGs and their online worlds within the preceding chapter, is the design of — and experimentation with — micro-transactional revenue methods in Activision Blizzard's *Diablo III*. Prior to the release of *Diablo III* there was a great deal of industry discussion, speculation, debate, and interviewing about the innovations and design decisions Activision Blizzard were planning on implementing. Unlike earlier MMOGs developed and published by Blizzard Entertainment (before it merged with Activision) — *World of Warcraft* being the prime example — where the revenue model was based solely upon monthly subscriptions to gain access to the game, *Diablo III* would also include an official in-game action house. Ultimately, this story is one of failure and a shutting down of this in-game auction house in March 2014 (Leibl, 2014); nevertheless, the speculation, articulated intentions, and discussions surrounding its development and implementation provide a further level of detail to the analysis hitherto provided.

The main features and functions of this in-game auction house were to provide players with the ability to spend real-world currency to buy and trade in-game content such as gold, weapons, and armour, whilst also offering the opportunity for those willing to pay a "nominal transaction fee" to exchange accrued in-game wealth for hard-cash. There were many dimensions to the types of transactions that this in-game auction house afforded, some of which allowed players to purchase subscription credits to another of Activision Blizzard's MMOGs — *World of Warcraft*. Nevertheless, of particular interest here is the ways in which key figures involved in the development, decision-making, and (attempted) implementation of this innovation discussed and reflected upon its *purpose*. In an interview about this introduction of real-world currency transactions into an MMOG, lead designer of *Diablo III* Jay Wilson explains:

> "Certainly there's an economic element to the auction house for us, but it came first and foremost as: what do we want to do for the players? What service can we possibly offer that would make the game experience better? … If we make money on it that's great, we're a business, we want to make money. But not at the expense of the customers - but

> because we've offered them something that was worth their money" (Wilson, quoted in Weber, 2011: [online]).

Here it is clear, once again, that there is an interesting interrelation between what Wilson himself calls an "economic element" to the decision to implement the in-game auction house, and an appeal to alternative, more ethically-oriented values of wanting to provide the "best possible service for the customer", and — it must be noted — of *not* wanting to pursue money "at the expense of the customer"; for Wilson, this constitutes *the primary motivational force of the decision to implement the in-game auction house*. Leaving aside issues regarding the complexity of correlating accounts with actions, it is nonetheless the case that an intricate process is taking place here between a consideration of an abstract economic notion of value on the one hand, and *values* as an expounded primary goal of innovation. This is made especially clear by the way in which Wilson explicitly downplays the role of money as the incentive for implementing the in-game auction house, stating that, although they (Activision Blizzard) are in the business of making money, this should not come at the "expense" of the players. In a later interview, Wilson added some further clarification to his position on what he clearly sees as the perceived "problem" of ethicality with the potentially profitable in-game auction house:

> "We want to make money because making money means we get to make more games, and we get to make bigger games … I don't think it's a bad thing to want to make money. I think it's a bad thing to want to make money off things that are not a good service or product [a] *for* your customer, and that's our inherent *belief*, is that it's okay to make money on a service we provide for our customers that [b] *we* think is a good service worth paying for" [emphases added] (Wilson, quoted in Weber, 2012: [online])

There is an interesting and noticeable "problem" — one might say, contradiction — that Wilson is attempting to navigate here: that — although not couched in such terms — there is a perceived incompatibility between monetary and ethical incentives for building the in-game auction house in *Diablo III*, between value-as-money and values-as-belief as the motivation for this innovation. In order to overcome this perceived "problem" of the ethicality of profiteering, Wilson invokes an explicit sense of "belief" in the ability to make money by providing experiences that are, to use his terminology, *worth* investing in for prospective

players. There is a two-fold aspect to the contradiction I am alluding to here in Wilson's attempt to navigate this perceived "problem": firstly, he indirectly invokes a sense of empowerment on the part of players to evaluate whether products are [a] *not in their interest*, "not worth paying for" — that is, not of value *to* players; subsequently, he goes on to suggest that [b] *"we"* — the developers, publishers and so on — are in a position to invoke "our own value-judgements on" what services are, and are not, worthy of investment on the part of (potential) players. Whilst not wanting to overcomplicate the line of argument here, is it not worth pointing out that — given *Diablo III* is a paid-for experience in the first instance — initial investment of both *time* and *money* is required on the part of players to reach a judgement on whether such investments are indeed "worth it" — oddly, this leaves the act of judging *worth*, evaluating *value*, in a retrospective arrangement to the very act of investing. Nevertheless, the more pertinent point here is that — regardless of the particular way in which the ethicality of *Diablo III's* in-game auction house is narrated by Wilson — there is nonetheless a clear connexion emerging between the processes of attempting to innovate new methods and definitions for making sense of the value of player populations, and the invocation of *values* as resources for legitimising such attempts as "for the good of the player".

An interesting question emerges from such an observation: although it is often the case that values are mobilised or invoked as a means to downplay the overarching predominance of seeking profits, is it also the case that the opposite arrangement can be observed? That is, are values explicitly invoked as a means to emphasise profiteering? In the following statement, co-founder of Blizzard entertainment (now Activision Blizzard) Frank Pearce reflects upon the potential of *Diablo III* as a means to prevent *World of Warcraft* players from becoming the patrons of other, competing games companies:

> "For us, I think it's really important that we recognise that somewhere, sometime it's likely that [a] *someone is going to cannibalise* World of Warcraft players, so [b] it's *better we cannibalise them ourselves than let someone else do that*, because [c] *if we cannibalise them ourselves, they're still a Blizzard customer*" [emphases added] (Pearce, quoted in Pearson, 2011: [online]).

In the first instance of Pearce's above rumination, he alludes to what he considers to be a threatening possibility of competing interest for Activision Blizzard's existing corpus of *World*

*of Warcraft* players — the metaphor for competition here being "cannibalism". Moreover, this perceived "threat" of another video-game company *cannibalising* one of Activision Blizzard's greatest sources of commercial profits is posited in terms that approximate a form of 'calculative pragmatism': "someone is going to cannibalise the source of our profit-streams, so it's *better* if we do it ourselves first". The admixture of *value* (profits) and *values* (*better* for us) here is particularly striking if we consider for a moment its three-part unfolding: firstly, [a] there is a call for a collective "we" (insert: Activision Blizzard) to come to terms with the inevitability of market competition (insert: cannibalism) over "what really matters" (insert: the profiting potential *of* players time and attention); secondly, [b] a proclamation of self-interest is invoked through a juxtaposition of "we" versus "someone else" — "given this inevitability it is "better" for us, our *interests* as a commercial company take precedent"; and finally, [c] through the former two propositions, an objective of retaining "Blizzard customers" is arrived at. Thus: [a] since "cannibalisation" *will* happen, [b] "we" must be the ones to [c] "do it", because that is what is "better" for us. For Pearce, the "problem" of profit is not one of attempting to justify or downplay profiting from "others/players" — though this manifestation of the "problem" of profit was certainly present in previously referred-to accounts, particularly with regard to a notable desire to neutralise or downplay profiteering as a *primary* motivation for implementing monetising game design. Rather, for Pearce it is a "problem" of *prevailing* over the consonant interests of "others/companies". In either case, the "problem" of profit has a double sense: (i) *where* and *how* can it be *sourced* from, and (ii) *why* is this "necessary". The former of these being the problem of valorisation in the first sense — *as a problem of quantification*, of extending the application of capital's 'logic of valuation' (Skeggs, 2014); the latter being the problem of valorisation in the *second* sense — *as a problem of qualification*, of validating this logic.

From the above what we can see is a clear and very explicit engagement on the part of games industry analysts, publishers, CEOs and others, in discussion about two key interrelated points. Firstly, there is a noticeable and very clear consideration of what — referring back to the notion of sympathetic cooperation and the constituent powers of the social contained within Chapter 3 above (Terranova, 2014) — these games industry professionals view as the *general* productive power of populations of game players that is understood as their collective abilities to, for example, create the social ecology of a game-world or introduce new players to a given game. The second of these points, is the way in which these social activities of player populations are discussed in terms that — at one and the same time — identify them as both productive of the "amazingness" and novel character of the gaming experience, *and*

as a potential source of abstract economic value in the form of revenue and profits. What is particularly interesting here, moreover, is the way in which discussion focussed upon the monetisation of player behaviours and sociality was often framed in relatively moral or ethical terms that, instead of overtly stating the intention to generate profits, often invoked the player experience as an end point of game development.

This point is particularly clear the above ways in which economic value-related concepts are invoked alongside and in connexion to appeals to various values perceived to be collectively held by the industry *community* — creative innovation, producing the best *possible* experience *for* gamers, leading the industry forward and into the future. Such appeals to 'progressionary visions' and audience satisfaction sit directly alongside open and explicit discussions about how to best translate the minutiae, everyday aspects of gamers' social and subjective experiences and relations — their friendship connections, values, desires, motivations and, importantly, their *attention* — from a generally perceived productive power of the social gaming experience, into a directly 'monetiseable' form of economic value. As such, what I have outlined so far, can in this light be considered a clear demonstration of how the games industry has been fully engrossed in the contemplation of how to translate the productive power of the sociality of players into economic productivity — that is, the above demonstrates some key insights into how the video games industry is currently engaged in a search for ways to valorise the core productive capacities of social and sympathetic cooperation into economic value. A further demonstration of the way in which the video games industry is searching out such ways to valorise the social capacities players can be seen in the development of systems of measurement and game metrics.

### 5.1.2 — *Measurement(s): Game Metrics and the Potential to Valorise the Hitherto Un-Valorised*

Another noticeable trend within the video-games industry in recent years is the creation and rapid development of businesses founded upon the provision of predictive analytics services to video-game publishing companies, all of which is geared toward understanding — and adapting to — player behaviours for the explicit purpose of ever-more-efficient monetisation. When placed in juxtaposition to the above analysis of commentaries on the introduction, innovation, and potential of revenue models, the *modus operandi* of these analytics companies — the ins-and-outs of the services they provide, the ways in which they advertise these services and so on — provide a wealth of insight into how such ventures in the methods of capital are opening up what might be referred to as as the 'potential to valorise the hitherto

un-valorised'; in other words, a concatenation of valorisations that operate at multiple-levels and upon various forms of "latent-value" potential.

Moreover these games analytics companies, viewed through the investigative lens developed thus far, are a prime site from which to consider the ways in which the video-games industry resembles 'an assemblage of assemblages in which technical, cultural, social and physiological components intervene' (Terranova, 2010: 164). I would like to further suggest, however, that these companies and the analytic services they perform, epitomise a broader and far-reaching mobilisation of measurement systems that might be thought of as a relatively 'automated milieu of methodologies' that are geared directly toward the measurement and, by extension, valorisation of sociality and social life in general. These methodologies, as relatively hidden and increasingly pervasive 'processes of automated traceability' (Steigler, 2009: 129), are — I intend to show through the example of games analytics — providing a methodological basis through which the cooperative capacities of people going about their daily lives, making connections and *producing* the worlds in which they live (Terranova, 2009), are becoming subjected to systems and regimes of measure that are going rise to the possibility for capital to create new operative categories of valorisation.

Over the course of my data collection, one of the first noticeably advertised games analytics companies to appear on industry market bulletins, email lists, and conference headings was Edinburgh UK based Games Analytics, founded in 2010. They are a self-described "player relationship Management" (PRM) firm that specialise in "free-to-play", "social casino" and "real money gambling" solutions. I shall begin by detailing some of the business advertising slogans of these gaming analytics companies before moving to show a few diagrams of the case study research they have conducted in recent years. Just to note, I have obtained the case study research papers from their own website, they are free to download and consult.

Games Analytics market themselves with a number of interesting rhetorical devices; terms like "power", "engagement" and interestingly for the purposes here "maximise". More specifically, on Games Analytics' website the main banner heading states "maximise player engagement"; without wanting to seem too presumptive at this juncture, the term maximise does seem to share a very high degree of consonance with valorise and accumulation. One notable instance of the way in which Games Analytics advertises itself to prospective video game development companies is taken from one of the brochures downloaded from their website:

> 'Not all players are the same. Understanding your players and personalizing the player experience significantly increases engagement to improve retention & monetization. Access to rich event data in high performance database tools allows users to go beyond dashboards and generate key insights by using powerful data mining, A/B testing and 3D segmentation tools. (Games Analytics, 2013: [online])

There are a number of interesting points to make here, not least the explicit encouragement to monetise, but notice that monetise is equated with retention — this metric crops up a great deal in the data collected. Nevertheless, the *main* point to make here with regards to the ways in which this company is setting itself up can be seen in the statement "not all players are the same" and its subsequent postulation of a need to understand and personalise the player experience. This, alongside the detailed descriptions given of the metrics and "data mining tools", is all geared toward the overall aim of retention and "monetisation". But it is also denotive of the *lengths* to which these companies were *claiming* they *could go to* in terms of eliciting details *about* player behaviours; the appeals to their "methods" for making sense of players' behaviour is particularly striking in this case because it is enmeshed with a sense of "allowing" you to do so much. The following is a prime example of this "allowing", or "revealing of" supposedly hitherto unforeseen micro-details about the behaviours of gamers and the information that can be gleaned from this:

> 'The self-service platform allows your whole team to view and explore rich game & player data in a fast and flexible environment. With full data access and a unique combination of Performance Metrics Dashboards, Slice & Dice Analytics and Explore Data Mining Tools, Measure 2.0 supports cohort comparison, custom event funnels and more in order to help you understand key blocking points in your game, such as mission difficulty or tutorial funnel' (Games Analytics, 2013: [online]).

To get a good sense of what exactly all these analytics are geared towards, I have included below one of the many diagrammatical representations included within the games analytics brochure (see: figure 1).

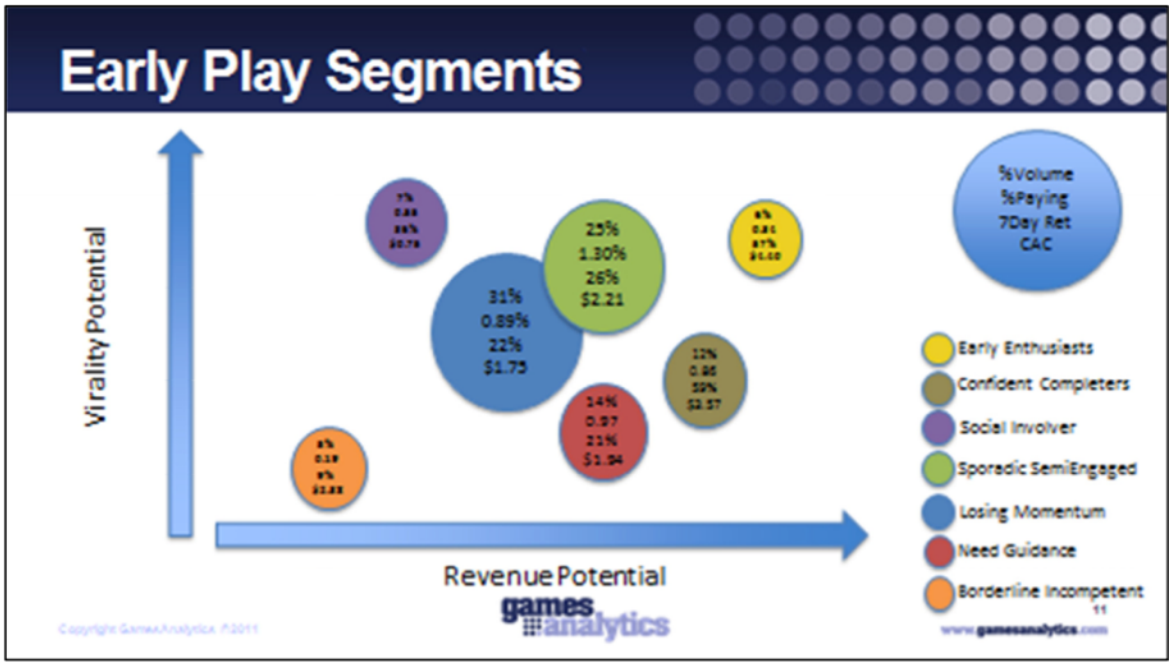


**Figure 1:** Early play segments: taken from Games Analytics (2011a)

The detail of what is being analysed here by this diagram gives a very good sense of how these companies are *thinking* about the sociality and behaviours of people in *terms* of their value. Firstly, the two largest groups, 'Losing Momentum' and 'Sporadic Semi-Engaged' both have what are referred to as *low retention* rates, which Games Analytics analysts suggested was because there were parts of the game were considered "boring" and consequently causing players to leave. As such, the game developer was advised by Games Analytics to add-in more features to this part of the game *for* players who fall into this group. Note that this does not translate into direct monetisation, instead the keyword at the bottom of the diagram is *Revenue Potential* — in other words, players that exhibit certain behaviours are seen "as of more potential revenue than others". Already there is a strong sense here of a connexion that is being established between the subjective experiences of individual players and the development of a sophisticated system of measuring how to improve this experience *according to the needs and desires of the given player*.

Perhaps one of the most interesting categories above — and of significant implication given the nature of this investigation — is the "Social Involver" and its revenue potential, which significantly outstrips all other categories in this metric. There is a term used by gaming analytics companies — "virality" — which denotes "highly sociable" people who "will respond well to rewards and incentives to introduce significant numbers to the game". This metric is an indicative measure, then, of how likely the player is to introduce new players

to the game through their social connectivity and relations. Given that this "virality" metric denotes the *likelihood* of someone introducing another person to the game — yet this does not amount to any form of direct monetary purchase or economic expenditure in the first instance — what is it that is thought to be of value to make this such an important predictor of revenue potential?

The theory of sympathetic cooperation outlined in chapter 3 demonstrates its explanatory power here as a means of beginning to unpick the the ways in which general social life is the foundational basis upon which production is built. As was demonstrated in chapter 3, the notion of sympathetic allows us to begin unpicking the ways in which contemporary capitalism is expropriating value from the 'the associative dynamics through which individuals … capture each other's attention, compose every-varying new beliefs, desires and forms of association, and constitute a socius by continuously re-actualising the world's possibilities' (Terranova, 2014: [online]). The revenue potential of players according to their virality metric, as a measure of the likelihood of a given player to introduce a new non-player (and potential paying customer) to the game, appears to be an apposite example of exactly the kinds of means we must look to if we are to male sense of how contemporary capitalism is expropriating value from the associative dynamics and associations of individuals. Indeed, the virality metric outlined here appears to function primarily as an indicator of how productive a given players social relations are to the increasing of the overall population of players of the game — and this, furthermore, is where the potential revenue lies in correlation with the sociality of the players.

Secondly, there is a definite way in which these abstract concepts of virality and revenue potential are reflected back onto the organisation of social player relations in the form of reflexive games design decisions. As the Games Analytics solution creed suggests, these metrics can be utilised to help foster adaptive game design that is specifically tailored to the needs and behaviours of definable player populations. As such, it seems appropriate to question wether or not we must consider the ways in which abstract economic concepts such as these come to play in the formation and reformation of the social worlds that the capacities of cooperation give rise to, and, moreover, the forms of value that are made possible through these processes. If we are to make sense of the possible ways capital can capture the productive powers of cooperation, to produce not just objects or subjects, but worlds to live in, then we must also consider the possibility that these methods of capture may also come to play a pivotal role in the production social life, much like they do here in the context of the *social life of the video game*.

Nevertheless, my main aim in detailing the ways in which gaming metrics are utilised to predict the revenue potential of players concerns what can be considered here as the 'value of sociability'. As was discussed throughout chapters 2 and 3, a major contribution from the Autonomous Marxist school of thought is the idea of notion that we are living in a period where all of social life is becoming subjected to capitalistic processes of valuation, where all of social life is becoming characterised as a factory without walls — a social factory. The analysis provided thus far in this chapter points inexorably to a situation where this thesis comes to the fore as a particularly apposite means of describing the ways in which the video games industry, through the innovation of new revenue models and systems of measurement, places a high value on the general capacity of gamers' sociality — so much so that, as the above figure showed, the active sociality of players was considered to be by far the greatest predictive metric of revenue potential. In this case, there is a direct connexion established between the qualitative capacities of players as producers and re-creators of the social worlds of values, beliefs and relations in which they live and the developing quantitative measures that seek to subject these productive capacities to predictive valuation. For the gaming industry, this connexion is centred around the value of the sociability of gamers. Consider the following extract, taken from a best-selling industry text entitled *Social Game Design: Monetization Methods and Mechanics*, written by Tim Fields and Brandon Cotton — both of whom are long-standing game designers. The section of the book this is taken from is entitled 'Motivate LTNV', the meaning of which will become immediately apparent:

> 'As we've hinted at previously, there are other ways to derive *indirect value* from your users, even if they don't pay you a penny or click on a single ad. When users invite their friends, they increase their lifetime total value (LTNV). Even if that particular player never gives you a dime, there's always a chance that their friends will spend money in your game, or view ads. Thus you should always seek to build game mechanics that reward (or mandate) users who invite friends into your game … Ultimately, motivating players to invite their friends through your game mechanic increases the *viral nature* of the game, which in turn leads to user acquisition, which is the quickest way to more revenue. Behaviors that maximise this motivation lead to a higher LTNV and thus a more profitable game' [emphases added] (Fields and Cotton, 2012: 164).

It is certainly not easy to suggest that there is a clear and determinate form of subjugating exploitation going on here of the kinds Marx was witness to in his time of mass

standardised labour. Nevertheless, it is equally difficult to ignore the overarching emphasis on how to calculatedly reveal and exploit the latent value of gamers' everyday social lives on increasingly minutiae levels of social processes and relations. That is, it is very difficult to look past the ways in which the video-games industry is actively seeking to both *define* and *exploit* the value of sociability through calculated means of measure and metricisation. Consider the following quotation, once again from Games Analytics:

> 'There really is no alternative to employing effective behavioral analytics in games; the future of the industry and competitive advantage lies in the ability to turn game data into actionable insight. Companies like GamesAnalytics have been created to help developers and publishers improve player engagement and maximize revenue through understanding player behaviours. The secret lies in putting analytics at the heart of your development culture; it should not be an afterthought. Once engrained in your business it will pay back its cost many times over' (Games Analytics, 2011b).

## 5.3 — **Discussion: Incommensurability?**

A few points of theoretical reflection are necessary at this juncture for reigning in a sense of what the above observations imply for the aims of this investigation, especially those outlined in the latter sections of chapter 3 regarding the primacy of cooperation to the productivity of social life in general, and, more specifically, the proposition that today we are witnessing the emergence of a social factory logic that is confronted by a central problem: the incommensurability of such social relations and cooperation with a capitalist system of valuation. In the first section of this chapter, I dedicated considerable time to a discussion of how and in what ways developers, designers, analysts and so on have been heavily engaged over the past few years in a discussion about how the video games industry should maintain itself as profitable enterprise: this discussion was framed by what I have referred to as the "problem" of profit. In the second section, I have attempted to demonstrate, by way of example, some of the innovations in systems of measurement that are currently being deployed to try and develop quantified categories for valuating the sociality of players through predicted revenue metrics. I want now to briefly return to the proposition of a social factory logic and the incommensurability of the social as a framing device for discussion of the above analysis.

In close connexion to the social factory thesis, certain writers operating out of the Autonomous Marxist school of thought have postulated that there is a problem of incommensurability between the products of social production and the laws of capitalistic. What is presented by this apparent incommensurability is a current need for capital to search for rules of social production and the *measuring unit* that defines these rules, much like labour-time and productivity were for the industrial model of capitalist production (Marazzi, 2011b). As was discussed in chapter 3, this situation brings capital to a point in which the implications concerning 'the question of measure' (Marazzi, 2011b) are of paramount concern if a system of surplus value accumulation is to be established. As subjective difference and the cooperative capacities of people going about their daily social lives become increasingly incorporated into technical systems that attempt to capture their value, so too is capital presented with a *problem* measure. This is due to the very qualitative processes of cooperation and creativity that form the basis of the productivity of social life in general that confront capital 'with *incommensurable* criteria of valuation' (Marazzi, 2011b: 79).

The overall point here is that there is a current preoccupation with making sense of the ways in which the qualitative dimensions of production today are subjected to quantified measure; and that, for some writers, this is a central problem facing capitalist processes of valorisation as it attempts to expropriate measurable value from immeasurable differences in subjectivity. There is, in other words, a preoccupation with the very same problem Marx outlined in his analysis of surplus value generation — the problem of profit — the main difference being that capital is confronted with purportedly immeasurable differences in subjectivity rather than homogenous masses of predefined labour processes. To summarise, the here is one of quantifying the qualitative social relations, beliefs and values that, referring back to the aforementioned notion of sympathetic cooperation, constitute the foundational basis of the productivity of life in general.

Considering this issue in light of the analysis provided in the first section of this chapter, the appeal to ethical values of creating the best possible experience for the user/player was mobilised as a means to *politically* legitimise — or at the very least, maintain a sense of distance from — the perceived "problem" of private interest in "profit"; yet the latter of these was, without question, the overt interest expressed by the pursuit of monetisation through technically sophisticated forms of measurement and metrics. Without wanting to overemphasise this point it is clear that within the video-games industry there is a noticeable enmeshing of value and values, a complex and iterative unfolding of both ethical *and* calculated foundations for seeking out means and methods for valorising the previously un-valorised.

With this in mind, it seems pertinent to point to how much of the above reflections upon — and research into — "players as sources of currently un-tapped value" were framed in terms of how best to understand social and psychological behaviour and attention- and playing-*time*; all of which was underpinned by an explicit desire to structure, segment, and channel this attention-time as *the* key *source* of players' *latent value* through game mechanics, advertisement interventions, and (social) incentives.

The second section of this chapter detailed some of the ways in which games analytics are providing a quantitive "solution" to the problem of valuating players sociality; for this, the concept of 'the value of sociality' was considered as having the explanatory power to help us explain the interactions of the iterative and reflexive process by which the gaming industry has sought to harnesses and measure social cooperation to develop and predict quantitative calculations of economic value. Without wanting to come to a full-gone conclusion on the proposition of incommensurability given the breadth and scope for investigating such a claim across all spheres of social life, I nonetheless want to suggest that in the case of the video-gaming industry and the kinds of connectivity, sharing, community formation, and measurements of sociality being developed — capital is doing a pretty good job. Of course, I by no means want to suggest that the video gaming industry has discovered some previously unheard of means to negate the problem of incommensurability. Rather, my aim here is a more tentative suggestion that if we look closely at the ways in which certain industries or sectors are developing and innovating new ways of measuring the participation of their audiences, then it may become clear — as is the case with the video games industry — that the difficulties of quantifying social cooperation as a source of economic value is very much a central problem upon which a great deal of effort is currently being spent.

With this in mind, it seems pertinent to point to how much of the above reflections upon — and research into — "players as sources of currently un-tapped value" were framed in terms of how best to understand social relations and attention-/playing-*time* of gamers; all of which was underpinned by an explicit desire to structure, segment, and channel this sociality and attention-time as *the* key *sources* of players' *"latent value"* through game mechanics, advertisement interventions, and (social) incentives. The two metrics of retention and virality were, of course, central to the quantitative measurement of attention and sociality respectively.

Perhaps it would be useful to suggest these developments not as 'free labour', but they very much resemble the core tenet of the social factory thesis, in a different way — rather than focus upon what people are doing as immaterial labourers, I have attempted to

paint a picture of the ways in which we might go about investigating another dimension of the social factory. Notably, the ways in which capitalistic logics of valuation are being thought through with an eye to establishing where value might be sought out and how it can be captured.

# 6. Conclusion

## 6.1 — **Scope of the Study**

This thesis has sought to address the need, in relation to the video games industry, to 'consider the types of labour that players/users/producers are performing as part of broader shifts in consumption/production paradigms' (Hjorth, 2011: 48). This is especially important given the recent emergence of participatory and collaborative architectures in video-games and so-called 'Web 2.0'. More generally. Hjorth (2011) has stressed that an investigation of this kind must look far beyond the *market* hyperbole of "empowerment" and "exploitation", of unbridled creativity and inclusion founded upon a perceived ethic of *playful engagement*. It is important to consider the political and economic relations of the processes involved, and the way they interact with social processes and social cooperation in order to generate and then expropriate value. This is the endeavor that this thesis has sought to supply.

The key and overarching research question for this inquiry was identified in the Introduction and refined in Chapter 3: How is (qualitative) sociality subjected to (quantified) capitalistic valorisation?

With specific reference to the video-games industry, this foundational question resolves itself into three further subsidiary research questions which this thesis has addressed, namely:

(i) What are the *sources* of value in the video games industry today?

(ii) What are the *means* of valorisation in the modern video-games industry?"; and,

(iii) How and in what ways is *value* being identified, developed and then expropriated within the video-games industry today?" (addressing the so-called 'problem of profit').

The foundational research question ('How is (qualitative) sociality subjected to (quantified) capitalistic valorisation?') was further developed in Chapters 2 and 3, with a focus on the 'social factory'. In Chapter 2 we considered a number of core issues that confront contemporary sociology in its approach to, and ability to raise questions about, the internal dynamics of capitalism, the way in which modern capitalistic production methods generate value, and their interactions with social problems and social development. These raise questions that have been posed by writers such as Roger Burrows and Frank Webster, and can also be seen in the macro social analyses of Daniel Bell and Manuel Castels. There has, nevertheless, been a notable lack of analysis in contemporary sociological research of the dynamics of capitalism, and of its role in generating and shaping social change.

## 6.2 — **Some Key Insights and Conclusions**

Autonomous Marxist literature offers a starting point for an examination of these issues; it is also key to this study, in having maintained a focus upon the dynamics of capitalistic production systems and their social consequences. Chapter 2 offers a review of the extant literature and considers the differing theories on the nature of value and on the process of valorization. This analysis used as it's starting point a key insight from Marx's own writing, namely that labour in the sense of 'work' can be eliminated, in the sense that it no longer necessarily equates with a compartmentalized or employment-defined notion, and that 'non-work' also has relevance to the generation of value in an advanced capitalistic economy where value can also be generated by the 'general intellect' of participants in capitalistic production processes: 'labour … appears no longer as labour, but as the full development of [personal] activity itself' (Marx, 1973, quoted in Gorz, 2010: 14-15). It then explored in some depth the literature of two schools of sociological thought on the relationship of capitalistic production and social change, namely: (i) sociological literature on the rise of 'post-industrial society' (Bell, 1973) and the 'information age' (Castells, 2009, 2010a, 2010b); and, (ii) Autonomous Marxist writings on the ascendancy of a 'post-Fordist' form of capitalist dynamics founded upon a 'social factory' logic (see Hardt and Negri, 2000; Marazzi, 2008; Virno, 2004, 2007). The latter school of thought is often referred to as 'cognitive capitalism' (Berardi, 2009; Vercellone, 2007). We noted in particular the lack of a *critical* engagement within sociology with key political economic issues regarding the ways in which technological and socio-economic change is both shaped by — and generative of — capitalist market dynamics. This deficiency is especially evident in the work of Bell and Castells, which displays a notable lack of attention to questions concerning the labour process, the production of (surplus) value, and (potential) changes in capitalist accumulation strategies as *fundamental* characteristics of contemporary socio-economic change.

Two concepts employed by Autonomous Marxist thinkers in their analysis of the digital or "new" economy (see for example Berardi, 2009; Terranova, 2004) offer important insights into the inter-relationship between new forms of capitalistic production and processes of social change. These are the concept of 'immaterial labour' (Lazzarato, 1996) and the 'social factory' thesis (see Gill and Pratt, 2008; Terranova, 2000, 2004; Virno, 2004). These place questions concerning the logic(s), dynamics and organisational form of capitalist accumulation at the centre of their analysis. Their analysis shows us that in the 1990s, when sociology and cultural studies appeared to be failing to provide viable theoretical frameworks for understanding emerging interrelations between new and digital media technologies and the systemic functioning of capitalist dynamics, the Autonomist Marxist school of thought

carried out the important role of maintaining a critical focus upon capitalism as driving contemporary socio-economic change (see: Burrows, 2005; Gane, 2003, 2005; Webster, 2005). This is a very different approach to that of thinkers such as Bell and Castells, in that it offers *a critique of* the political economy of information technologies and new media through an engaged reworking of the Marxian concepts of labour, value and production. The discussion in Chapter 2 demonstrated that the emphasis upon labour and the production of value within the Autonomous Marxist literature gives us a referential framework for understanding contemporary social change that, though not perfect, at least avoids the lack of conceptual exposition and analysis found in the literature on the information age (including that of Bell and Castells, and their adherents). The work of sociologists in the Autonomist Marxist school of thought provides an important point of reference for the consideration of the impact of capital and labour in relation to contemporary forms of production, including the new media, and has special importance for the present study for this very reason.

The analysis in Chapter 2 also shows that the Autonomous Marxist literature offers important insights into the emergence of a post-Fordist mode of production; that is, one characterized by an increasing emphasis upon knowledge, information, and a general preponderance of cognitive, or 'immaterial' dimensions of what is considered to be *a general and all-pervading* labour process, over the segmented labour of the mass-manufacture assembly line (see: Lazzarato, 1996; Marazzi, 2008; Virno, 2004, 2007). This is an especially important insight when we consider the 'new' modes of production prevalent in the contemporary computing industry and the new media examined in Chapter 5. As was argued in Chapter 2, the notion of general intellect found within Marx's *Grundrisse* was a pivotal springboard for Autonomous Marxism's conceptualisation of the shift in emphasis away from mass manufacture and manual production (in short, Fordism) and towards the cognitive, immaterial properties of post-Fordist labour. This led to an emphasis on 'cognitive capitalism', in which the relation of capital to labour is marked by the increasingly immaterial, computational, emotional and 'cognitive' character of labour (Berardi, 2009; Vercellone, 2007). This has been accompanied by a shift to a position where the value of the commodity is determined not by the *quantity* of labour-time that went into its production, but by a productive process that rests primarily upon the *qualities* of knowledge, cognitive skills, and the immaterial labour processes engaged in its production (Vercellone, 2007; Virno, 2004, 2007). For Virno (2004), for example, the contradiction between the post-Fordist mode of production being based upon a diffuse general intellect – that is, upon knowledge, cognitive skills, and various immaterial forms of labour – and the manner in which these are quantified and measured, is an illustrative empirical realization of Marx's "Fragment on Machines" (Marx, 1973), in which he outlines

the impact that immaterial forms of work and production will have upon the future industrial capitalist system and the inherent contradictions that would arise from such a development.

This has direct relevance to the subject of this study, namely the video gaming industry. The ultimate expression of this emphasis on immaterial forms of production can be seen in the proliferation of ICTs and various forms of new applications of digital media through which 'capitalism seeks to involve even the worker's personality and subjectivity within the production of value' (Lazzarato 1996: 134). In summary, then for the Autonomous Marxists, the notion of immaterial labour signposts the ways in which capitalism has sought to take what is learned, experienced and consumed in the temporal zone of traditional non-labour time and incorporate this into cycles of value-production; this then becomes part of labour-power and thus a profitable resource. As has been demonstrated in Chapter 5, this resource is today becoming ever-more prevalent with the development of extensive, new and networked media technologies that enable this process to become ever more diffuse throughout quotidian social life. Importantly, the Autonomous Marxist emphasis on a mode of production based upon general intellect does not refer to any specific class or group of knowledge or informational workers — it refers to a more *general* and, to some extent, *totalising* process whereby knowledge, information, and *communicative sociality* are subsumed into processes of capital accumulation.

For Autonomous Marxists the notion of immaterial labour (or 'free' labour; see Terranova, 2004) captures those activities carried out by individuals on the Internet that are simultaneously voluntarily given and unwaged, enjoyed and exploited. This might include the building of websites, the modification of software, reading and participating in discussion forums or virtual spaces, and contributing to websites based around user-created content such as YouTube or Facebook. In the context of digital media, all of these form part of a process whereby production and consumption are reconfigured into forms of labour that we do not immediately recognise as such, for the simple reason that they do not approximate to traditional notions of waged labour. Nevertheless, they are part of a prevalent contemporary value logic that does not rely on the exploitation of a *formally employed* labour force.

In the context of the new media and digital technologies, the generation of value is not underpinned necessarily by legal relationships of employment of a wage labour relation, but by harnessing the voluntary participation in the social factory of participants in gaming activities and the social media. The generation and valorization of value in the new media industries is, therefore, itself paradigmatic of the social factory, the 'factory without walls' (Terranova, (2004: 91) in contemporary society. Internet-based activities such as user-

creation on social networking sites, online game-world participation, and content sharing — video, image, text, music etc. — highlight how the value of innovations in the digital economy relies upon continuous, updateable work carried out by 'users' under the guise of leisurely consumption. The notion of a social factory, then, highlights above all the idea that the productive activities of Internet users' and participants in the wider digital economy can be considered as a generalizable labour process that is generative of surplus-value.

This thesis has stressed that the question of capitalism in contemporary sociology has been to some extent marginalized, and has sought to redress this. The interpretation of the social factory thesis that I have developed in Chapters 2 and 3 places a central emphasis upon the need to interrogate the ways in which capitalistic valorization methods and processes have adapted to incorporate increasingly detailed aspects and intimate facets of participants everyday social lives. In other words, the particular application of the 'social factory' concept developed in this thesis enables us to identify how modern capitalistic processes subject intimate aspects of everyday social life to systems of quantification and measurement in order to generate, assess and expropriate surplus value. In particular, as demonstrated in Chapter 5, this has enabled the video-games industry to perpetuate the accumulation imperative in a modern digital setting.

Chapter 2 rebutted criticism levelled at the contributions of the Autonomous Marxist school of thought, and especially criticism of the apparent imprecision and haziness of 'immaterial labour' as a concept for describing changes in contemporary labour processes. It was demonstrated in Chapter 2 that immaterial labour is only one conceptual facet of a complex and constantly developing set of arguments and discussions both within and in dialogue with Autonomous Marxist literature. An important Autonomous Marxist contribution has been its focus on the changing nature of, and relations *between,* labour and value production and the implications of this for a systematic understanding of the socio-economic condition we find ourselves in today (see especially: Fumagalli, 2011; Morini and Fumagalli, 2011; Vercellone, 2010). Chapter 2 concluded that while it is important to acknowledge the limitations of the various aspects of Autonomous Marxist thought, it remains the most important contribution that addresses what this thesis has referred to as the 'marginalised question of capitalism' in contemporary sociological literature. Moreover, the importance of the social factory thesis cannot be understated, as it provides an important convergence point for making sense of not only changes in labour processes and the dissolution of work and non-work time, but also changes in the ways in which we can make sense of *labour as a value-generating process* and

*the production of value as a hallmark of labour*. In other words, the notion of a social factory entails a dedication to understanding both changes in what constitutes labour and changes in the way that (surplus-)value is generated, maintained, and intensified *as parts of* an analytical framework for understanding mdeorn capitalistic processes – especially those at work in the new media and digital technology industries. Chapter 3 examined in some depth a wide spectrum of social theory including, the wider meaning of what is meant by the 'social factory', and notions of sympathetic cooperation etc. We also saw that a reading of Marx's labour theory of value, using metaphysical arguments including fetishims etc., offer little assistance in explaining valorisation in the computer games industry. These approaches have little to offer in terms of understanding valorisation in the computer games industry compared with the autonomous Marxist approach outlined above and in more detail Chapters 2 and 3.

The study of the modern video game industry offered in Chapters 4 and 5 has sought to illustrate the importance of the autonomous Marxist analysis developed in the earlier Chapters, and to use this to offer a critique of the development and expropriation of value in the contemporary video games industry. Chapter 4 emphasized, for example, the importance of the rise of 'playbour' within the audience cultures of the games industry and highlighted how the next workforce to be mobilised in the search for new ways to make the games industry profitable lay not within the formal boundaries of employment and wage-labour, but outside it in the rapidly expanding network of online player communities. Drawing on an autonomous Marxist approach, the thesis has focussed on the configurations of the *labour* and *valorisation* processes that have underpinned the gaming industry's expansion and development. The analysis developed in Chapters 4 and 5 examines the video-games industry *as a capitalist enterprise* founded upon the buying and selling of entertainment as a commercial commodity. The history of video gaming's commercial development presented in Chapter 4 highlights, above all else, the dynamics and (re)configurations of organisational *forms* and *relations* of production that have come into existence *as expressions of* a continual and iterative process of valorising perceived *sources of value*. This is essentially a history of the ways in which value has mediated the formation of the new media industry and its strategies of production and accumulation.

The analysis of the processes of valorization offered in Chapter 5 illustrates the innovative ways in which the industry has sought to measure and extract value from social interactions and social cooperation within the gaming community. The development of businesses providing predictive analytics services to video-game publishing companies was highlighted as facilitating greater understanding of player behavior and enabling its efficient monetization.

Indeed, the development of broader and sophisticated measurement systems has resulted in what has been referred to as an increasingly pervasive 'processes of automated traceability' (Steigler, 2009: 129). These are, as demonstrated in Chapter 5, representative of Postone's (2003, 2004) proposition that the abstract domination of value has no determinate locus, that it is embodied within people and *things* — so, the task is to see what characteristics of abstraction might be accessible in concrete form.

Another notable development has been the development of the "Social Involver" and its revenue potential derived from the novel concept of "virality" – that is focusing on "highly sociable" people who "will respond well to rewards and incentives to introduce significant numbers to the game". The 'value' here is not generated by a direct monetary or commodity exchange, but something more akin to a potentiality or expectation that additional gamers will be attracted to the product. This is a new *indicies of value,* in that the "virality" metric denotes the likelihood of someone introducing another person to the game, albeit there is no direct monetary purchase or "gain" in the first instance. Marx's theory of value can be used to interrogate this modern phenomenon. This involves an abstraction (thinking of players as potential, the formation of population categories). But these abstractions are dominating the organization of social/player relations in the form of reflexive games design decisions. The activities of players *in-game* are analysed from *without* through abstractions. These are reified into economic categories like "virality Measures", which, as explained in Chapter 5 can then influence the game-design choices.

In this context, the concept of "sociality", has considerable value in helping us to explain the interactions of the iterative and reflexive process by which the gaming industry harnesses social cooperation and uses it to develop value. In the case of video-gaming and the kinds of connectivity, sharing, community formation, and general sociality that the analysis of the modern video gaming industry offered in Chapters 4 and 5 has developed, we can see that capital has been able to develop new strategies and techniques to measure the previously unmeasurable, and in so doing to valorise intimate social relations in a way that enables it to develop, measure and expropriate 'value' in ever more innovative and nuanced ways. Returning finally to the 'social factory' thesis, we might conclude that many of these developments should not be seen as the use of 'free labour': rather they focus upon what people are doing as *immaterial labourers.* In so doing the thesis has painted a picture of the ways in which we might go about investigating another dimension of the social factory — notably, the ways in which representatives of capital's logic have thought through and reflected upon where value might be sought out, pursued, hunted, and captured. And how they have then acted upon this with innovative strategies to develop and expropriate value in

the social factory.

## 6.3 — **The Enduring Value of the Theory of Value**

This thesis has built upon and adapted an autonomous Marxist approach appropriate to investigate the development of new sources of value in the video gaming industry, and the strategies it has developed to expropriate that value. Perhaps the most important insight that emerges from this study is that the theory of value has a number of facets that underpin its continuing relevance in a completely different economic and social environment to that in which Marx wrote. These are characterized by its open textured, value neutral, and context transcendent nature. *How* value is generated, and *how* it is understood and valorized are not in themselves important. The theory provides a framework of values and concepts that has relevance irrespective of these issues i.e. irrespective of the empirical case under investigation or its temporal context. This makes it uniquely suitable to prosecute further research not only into the video games industry, but also into the generation of value and the development of new capitalistic production methods in other industries. There is a common logic arising from the study of value, and its generation and capture by the gaming industry, that can be applied to the development of value in other innovative 21st century industries such as social media (Facebook, Twitter , Instagram etc.). The genealogy and history of the techniques and methods used to measure, and in each case to expropriate user populations' potential and perceived latent value, may differ in different cases and contexts, but the underlying principles established by a re-reading of the theory of surplus value presented in this thesis will in every case provide an invaluable framework for analyzing the inner workings of capitalistic production and valorization processes in each case. The thesis has also highlighted the adaptability of capital, and how can we use this knowledge to understand the way in which capital develops and adapts to new production techniques, technologies and processes. It has also highlighted what remains the same - what is continuous and what changes. There is an underlying logic to capital strategies that remains constant, although it does vary in the manner of its application in different contemporary contexts. The focus and direction that this thesis has undertaken can also tie into the wider preoccupation within sociology with issues concerning measurement and value, and values (see for example 'Measure and Value', *The Sociological Review* special issue, ed. Atkins and Lury, Wiley-Blackwell, 2012)

## 6.4 — **Postscript: Values Haunting Value?**

From such a viewpoint it seems pertinent at this closing juncture to bring into question the proposition that — under an iteration of capitalism where it becomes increasingly possible to identify social life in general as a 'social factory' — we must look to how:

> 'it is the lacks, the residues, and the excess that cannot be captured by capital's mechanisms of valuation … [I]n order to think beyond the logic of capital [we must] show how values will always haunt value.' (Skeggs, 2014: 1).

Though the investigation offered here has only begun scraping the surface of such a proposition within a particular — and perhaps not-so-representative — domain of social life, it is nonetheless difficult to think of a way to reconcile the dictum that "values will always haunt value" with what has been observed to be an onward march — not without its stumbles, it must be said — of capital's mechanisms of valuation, muddled and married as they are with *values*; in this connexion it is noticeable that we find a nexus of *values mediating value,* and *value mediating values*. Embedded within the commercial logics of the video-games industry are explicit appeals to, and juxtapositions of, on the one hand, ethical values of playful engagement, creativity, loyalty, sharing, and progress; on the other, an explicit and overarching *desire* to monetise the currently non-monetised, to find ways to measure the previously unmeasured and *potentially* valuable. Perhaps it is no coincidence that the reverse side of value's coin is, in fact, values. There is a definite need then, if such a case can be made, for investigating the reverse order of Skeggs' proposition: the extent to which values are put to work *for* value.

Only by descending down into the inner-workings of the social factory does it become possible to glimpse the cross-sections of an intricate and dynamical relation between *value* and *values* — between the *abstract* dominance and *concrete* expressions of capital's reproductive motion. A relation that, above all else, reveals a great deal about the *essence and ethics* of valorisation in both senses of the term — of the *translational* power of capital to seek ever more effective means of quantifying the seemingly unquantifiable, and to *validate* this power through its own *values*, embodied as they are within *people* and *things*. As far as this investigation goes, it has not provided much in the way of thinking beyond what Skeggs refers to above as capital's mechanisms of valuation — perhaps this will require looking

somewhere beyond or marginal to the astonishing successes of the twenty-first century's most accomplished form of commodified entertainment.

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